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AN ANALYSIS of EXPENDITURES and REVENUES in the REGIONAL MUNICIPALITY of NIAGARA

by
Enid Slack

Niagara Region
Review Commission



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NIAGARA REGION REVIEW COMMISSION

BACKGROUND STUDY

AN ANALYSIS OF EXPENDITURES AND REVENUES IN
THE REGIONAL MUNICIPALITY OF NIAGARA

by

Enid Slack

Enid Slack Consulting Inc.

November 1988


This background study has been prepared for the Niagara Region Review Commission to assist it in its deliberations. All recommendations, conclusions or comments in this study are strictly those of the author of the study and do not reflect the views of the Commission.

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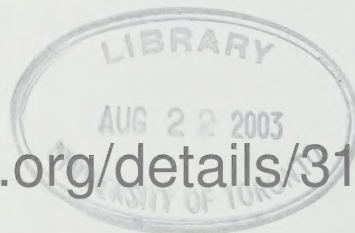
Niagara Region Review Commission
4572 Queen Street
Niagara Falls, Ontario L2E 2L6
1-800-263-8800
416-354-5601

Harry Kitchen,
Chairman

David Siegel,
Research Director



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Executive Summary

The purpose of this study is to provide some evidence on the impact of regional government in Niagara on revenues and expenditures and to analyze several municipal finance concerns and issues. The study reviews the expenditures and revenues of the Regional Municipality of Niagara and each of its twelve constituent municipalities over the period 1977 to 1986. These expenditures and revenues are compared with those of five other two tier municipalities in Ontario (Hamilton-Wentworth, Metro Toronto, Ottawa-Carleton, Sudbury and Waterloo) and three single tier municipalities (London, Thunder Bay and Windsor).

The first section of the study provides a quantitative analysis of expenditures, revenues, property taxes and capital revenues and expenditures. The second section provides an analysis of the issues.

In the Regional Municipality of Niagara over the period 1977 to 1986, current expenditures (and revenues) of both the upper and lower tiers combined grew at an annual average rate of 8.1 percent and in real terms per household, the annual average rate was only 0.3 percent. Expenditures have grown relatively more quickly at the regional than at the local level and, indeed, some lower tier municipalities have shown a decline in growth in real expenditures per household over the period. In comparison with other two tier and single tier municipalities in Ontario, revenue and expenditure growth has been relatively modest in the Niagara Region.

Five issues are summarized:

1. The optimal form of government may be a two tier structure: services that exhibit economies of scale and spillovers are provided by the upper tier and services that benefit from demand and access considerations are provided by the lower tier. With the exception of garbage disposal, the functions appear to be appropriately divided between tiers in the Region of Niagara. Garbage disposal, which is characterized by economies of scale and spillovers, would be more appropriately provided at the regional level.
2. The entire municipal finance system in Ontario and in the Regional Municipality of Niagara rests on the property assessment base. Property taxes, provincial-municipal grants, provincial grants to education and the apportionment of regional costs all depend on the assessment in each municipality. To the extent that this base lacks uniformity, all of these aspects of the municipal finance system are flawed. The need for a uniform assessment system is crucial to the future of that system.
3. The favourable treatment of residential property over non-residential property is documented for the Niagara Region and the rest of the province. There are four aspects: differential mill rates, assessment biases, the discounting of residential property in the apportioning of regional costs

and the levy of a business tax on non-residential property. It is time to recognize this favoritism, analyze the impact and determine if it is appropriate. If it is to continue, it should be done explicitly through mill rates and not implicitly through assessment and apportionment calculations.

4. Another issue is the role of the Province in local decision-making. The Province sets quality standards for municipalities to maintain, it requires that municipalities not go into deficit on current account, it determines the assessment base, it provides grants with rules and regulations that have to be followed and it requires provincial approval of capital expenditures. The result seems to be a municipal finance system with little municipal flexibility to make fiscal decisions.

5. In terms of the future, it appears that the Regional Municipality of Niagara needs to look at major capital (and operating expenditures) on such facilities as waste disposal and sewers. It also appears that there are few alternatives to the property tax, with the exception of making greater use of user charges. The most realistic scenario is one in which reliance on the property tax will continue. Efforts to improve the administration of that tax are essential in the short and long term.

Introduction

The introduction of regional government in Niagara and in the rest of the province has led to accusations that the costs of this level of government have been excessive, that property taxes have increased dramatically and that there is widespread duplication of services. Regional governments, in turn, have complained that cost increases are a direct result of increased provincial standards being imposed on them. Even in the absence of regional government, concerns over the administration of the property tax, especially the implementation of market value assessment, have been widely expressed.

The purpose of this study is to provide some evidence on the impact of regional government in Niagara on revenues and expenditures and to analyze several municipal finance concerns and issues. The study reviews the expenditures and revenues of the regional municipality in Niagara and each of its twelve constituent municipalities over the period 1977 to 1986. These expenditures and revenues are compared with those of five other two tier municipalities in Ontario (Hamilton-Wentworth, Metro Toronto, Ottawa-Carleton, Sudbury and Waterloo) and three single tier municipalities (London, Thunder Bay and Windsor).

The study is divided into two main sections. The first section provides a quantitative analysis of expenditures, revenues, property taxes and capital expenditures and revenues in the Regional Municipality of Niagara and in the other selected municipalities in Ontario. The second section provides an analysis of the issues relating to the expenditure and revenue trends.

The issues that are analyzed include the following: the reasons for the growth of government expenditures in the Niagara Region, the division of expenditure responsibilities between the regional government and the lower tiers, the determination of the assessment base for property tax purposes, the method of apportioning regional costs, the differential treatment of residential and non-residential property, the use of provincial grants, the application of user charges, the possibility of finding alternative revenue sources and the appropriate method of financing urban infrastructure.

Finally, the concluding section summarizes the findings of the study and provides some insights into how well regional government has worked in Niagara. Some suggestions for improvement in the future are put forward.

A. ANALYSIS OF EXPENDITURES AND REVENUES

A major part of this study is devoted to an analysis of revenue and expenditure trends in the Regional Municipality of Niagara and other selected municipalities in Ontario. All of the quantitative information is taken from published and unpublished Tables in Todd (1988). The source of the data is the MARS (Municipal Affairs Retrieval System) database from the Ontario Ministry of Municipal Affairs which compiles the data from the Financial Information Returns (FIRs) of each of the municipalities in Ontario.

There are several problems and discrepancies in the database that have been highlighted in Todd (1988). In particular, problems arise where the regional government reporting is different from the reporting of the lower tiers. Where this problem occurs, as it does with property taxes, for example, it is identified in this study and, to the extent possible, corrected.

I. Expenditure Analysis

The analysis of expenditures is presented for a) the Niagara Region (upper and lower tiers combined), b) the regional tier, c) the lower tiers combined and d) expenditures in each municipality. The expenditure analysis also provides e) expenditures by object, and f) a comparative analysis.

a) The Niagara Region (upper and lower tiers)

Total operating expenditures in the Niagara Region in 1986 (for both the regional government and all of the local governments combined) were almost \$323 million. Over the period 1977 to 1986, the annual average increase in expenditures was 8.1 percent.

These estimates alone, however, do not provide sufficient information to determine how much expenditures have grown in the Niagara Region. First, if the number of households has increased over the period, then the expenditure increase may only be reflecting that there were more people living in the Region in 1986 than in 1977. Thus, it is necessary to look at how expenditures per household have grown over time. Second, there was significant inflation during this period. If expenditures have increased because of a general increase in the price level which was beyond the control of governments in the Niagara Region, then the above estimates do not reflect the real growth in expenditures. Thus, it is necessary to analyze how expenditures in real terms, that is taking account of inflation, have grown over the period.

Expenditures per household in 1986 were \$2,285 and had increased at an annual average rate of 7.9 percent over the period 1977 to 1986. Since the annual average increase in per household expenditures is less than the annual average increase in total expenditures, it appears that one of the reasons for the expenditure growth was simply that there were more households in the Niagara Region in 1986 than in 1977.

To derive an estimate of the change in real government expenditures, current expenditures were deflated by the implicit GNE price deflator for government expenditures. In real terms, the expenditure increase over the

period 1977 to 1986 was 1.3 percent. This means that much of the expenditure growth can be explained by inflation.

When taking account of the combined effect of the growth in households and inflation over the period, it was found that the annual average growth in real expenditures per household for the Region, including the constituent municipalities, was only 0.3 percent. The growth in real expenditures per household was highest for social services (at an annual average rate of increase of 1.8 percent) followed by environmental services (at 1.5 percent). Transportation, recreation and culture, and planning showed a decline over the period.

The fastest period of growth in real expenditures per household occurred from 1982 to 1983 (at an annual growth rate of over 3 percent). In the late 1970s, the annual average change in real expenditures per household was actually negative. For the most recent period for which data are available, 1985 to 1986, the annual average growth rate in real expenditures per household was 2.8 percent.

The two largest expenditure items in 1986 were environmental expenditures (almost 21 percent of total expenditures) and transportation expenditures (20.5 percent of total expenditures). By far the largest component of transportation expenditures was on roadways. Protection accounted for almost 19 percent of total expenditures, with the largest component being for police expenditures. Social and family services accounted for almost 16 percent of total expenditures.

Over the period 1977 to 1986, there has been some change in the pattern of expenditures. The proportion of expenditures on protection has risen from 17.9 percent of the total operating budget in 1977 to 18.7 percent in 1986. The increase is made up of increases in both fire and police expenditures. Transportation expenditures have fallen somewhat as a percentage of total expenditures from 25.2 percent in 1977 to 20.5 percent in 1986. The portion of the operating budget accounted for by roadways has been largely responsible for that decrease. Environmental expenditures have risen as a proportion of the operating budget from 18.7 percent in 1977 to 20.9 percent in 1986. The major portion of the increase was for sanitary and storm sewers. The proportion of operating expenditures devoted to social and family services has increased from 13.8 percent in 1977 to 15.8 percent in 1986. This increase is largely accounted for by increases in general welfare assistance. Finally, recreation and parks showed a decline in terms of the proportion of operating expenditures from 10.0 percent in 1977 to 8.7 percent in 1986. Expenditures on parks as a percentage of total expenditures showed the major portion of this decline.

Changes in the proportion of total operating expenditures attributed to any particular expenditure function can occur for two reasons. One reason is that the actual expenditures on that function have increased (or decreased) in absolute terms. The other reason is that expenditures on other functions have increased (or decreased) thus altering the proportions for all expenditures. This section has only looked at the changes in proportions and not the changes in actual expenditures. The purpose was to identify changes in the relative significance of each expenditure category in the total operating budget over time.

b) The Regional Tier

Expenditures of the regional government in Niagara in 1986 were over \$155 million, representing 48 percent of the total of upper and lower tier expenditures. The share of total expenditures accounted for by the regional government has increased from 44.6 percent in 1977 to 48.2 percent in 1986. This represents a steady increase over the ten-year period. In household terms, regional government expenditures in 1986 were \$1,100 per household.

In terms of the growth in regional government expenditures over the period 1977 to 1986, expenditures grew at an annual average rate of 8.9 percent; regional expenditures per household grew at an annual average rate of 8.0 percent; and real regional expenditures per household grew at an annual average rate of 1.1 percent.

The annual average growth in real regional expenditures per household was largest for general government (4.0 percent), environmental services (2.8 percent), and planning and development (2.4 percent). Transportation showed an average annual decline in real per household expenditures of 3.4 percent.

The largest expenditure category for the regional tier in 1986 was social and family services (32.8 percent of operating expenditures), followed by police protection (23.7 percent), environmental (21.5 percent) and roadways (10.6 percent of operating expenditures). The distribution of expenditures was roughly the same in 1977 as in 1986 with the main exception being that roadways as a proportion of total operating expenditures fell from 15.9 percent to 10.6 percent.

c) The Lower Tiers Combined

Lower tier operating expenditures in the Niagara Region in 1986 were over \$167 million, or 52 percent of total upper and lower tier expenditures. Lower tier expenditures per household in 1986 were \$1,184.

The growth in lower tier expenditures over the period 1977 to 1986 was 7.4 percent on an annual basis. Expenditures per household grew at an annual average rate of 6.5 percent and real expenditures per household fell at an average annual rate of 0.5 percent. Thus, in real terms per household, the lower tiers experienced a decline in expenditures. Although most expenditure categories experienced a decline in real per household terms, there were modest increases for protection, general government, environmental services, social services and planning and development.

In terms of the breakdown of expenditures, the largest proportion of expenditures for the lower tiers in 1986 was for transportation (29.7 percent) followed by environmental (20.3 percent), recreation and cultural services (16.6 percent) and protection (13.7 percent). Over the period 1977 to 1986, the distribution has been fairly similar with some change in magnitude. For example, protection increased from 12.0 percent of total expenditures to 13.7 percent, transportation fell from 32.7 percent to 29.7 percent, environmental rose from 18.8 percent to 20.3 percent and recreation and cultural services fell from 18.1 percent to 16.6 percent.

d) Expenditures in Each Municipality

A brief summary of expenditure patterns is provided for each of the twelve constituent municipalities in the Regional Municipality of Niagara for 1986 in Tables 1 and 2.

For each of the municipalities in Niagara, Table 1 summarizes expenditures per household and real expenditures per household in 1986 and the corresponding annual average growth rates. Expenditures per household range from a low of \$689 in Wainfleet to a high of \$1,426 in Port Colborne. The average expenditures per household of the lower tiers in 1986 were \$1,184.

In terms of expenditure growth over the period 1977 to 1986, it is probably most useful to look at the growth in real expenditures per household. Table 1 shows that many municipalities experienced negative growth over the period: Niagara Falls, Port Colborne, Welland, Thorold, Grimsby, Niagara-on-the-Lake and Pelham. In other words, for these municipalities, expenditures per household did not keep pace with inflation. Positive growth in expenditures in real terms per household occurred in St. Catharines, Fort Erie, Lincoln, Wainfleet and West Lincoln. The largest growth occurred in St. Catharines and Wainfleet but, in both cases, the annual average growth rate was less than 1 percent.

The distribution of expenditures for 1986 for each of the municipalities in Niagara is presented in Table 2. At the regional level, the largest expenditure item tends to be social and family services followed by protection (police) and environmental services. At the local level, the two largest expenditure categories tend to be transportation and environmental. Over the period from 1977 to 1986, there has generally been a decline in the relative significance of transportation and an increase in the relative significance of environmental services.

To summarize, total operating expenditures of the regional and local levels of government in 1986, were almost \$323 million. Over 48 percent of these total expenditures were accounted for by the regional government. In terms of real expenditures per household, the annual average growth rate in regional government expenditures over the period 1977 to 1986 was 1.2 percent; for local government, the annual average decline in expenditures was at the rate of 0.2 percent. Quite clearly, then, the growth in regional government expenditures in the Regional Municipality of Niagara has outstripped the growth in local government expenditures.

Table 1

Expenditures per Household by Municipality, Regional Municipality of
Niagara, 1986

Municipality	Exp. per household 1986 (\$)	Annual Avg. Growth Rate 1977-86 (%)	Real exp. per household 1986 (\$)	Annual Avg. Growth Rate 1977-86 (%)
Niagara Falls	1,347	6.0	1,016	(1.4)
Port Colborne	1,426	7.3	1,076	(0.2)
St. Catharines	1,238	8.3	934	0.7
Welland	1,129	6.3	851	(1.2)
Thorold	1,101	5.1	830	(2.3)
Fort Erie	908	7.6	685	0.0
Grimsby	1,043	5.4	787	(2.0)
Lincoln	1,125	8.1	849	0.5
Niagara-on-the Lake	1,133	6.4	854	(1.1)
Pelham	839	5.5	633	(1.9)
Wainfleet	689	9.2	520	1.5
West Lincoln	1,169	8.5	882	0.9
Regional tier	1,100	8.8	830	1.1
Lower tiers	1,184	7.1	893	(0.5)
Total	2,285	7.9	1,723	0.3

Note: Negative numbers appear in brackets.

Source: Todd (1988), Tables 7 and 8 (published and unpublished)

Table 2

Distribution of Expenditures by Municipality, Regional Municipality
of Niagara, 1986

(percent)

Municipality	Gen. Gov.	Prot'n	Trans'n	Env'l	Health	Soc.& Fam.	Rec.& Cult.	Plan
Niagara Falls	10.6	16.5	33.4	17.6	2.9	0.6	14.3	3.9
Port Colborne	18.2	11.4	20.8	22.9	0.0	0.0	18.0	8.6
St. Catharines	12.2	15.1	30.0	18.9	1.4	1.3	17.4	3.8
Welland	10.2	15.9	29.2	18.7	1.0	0.0	19.2	5.7
Thorold	17.7	13.7	26.0	19.8	3.5	0.7	17.2	1.6
Fort Erie	14.3	7.9	24.1	33.5	1.4	0.2	15.8	2.8
Grimsby	14.0	6.7	22.2	28.8	1.2	1.4	21.9	3.8
Lincoln	11.3	8.2	34.5	22.9	1.6	0.9	13.3	7.3
Niagara-on-the Lake	14.7	8.8	23.0	25.3	1.8	0.2	15.3	10.9
Pelham	15.1	11.3	30.4	18.9	2.3	0.0	17.6	4.3
Wainfleet	16.2	10.0	34.5	5.6	1.8	0.0	15.8	16.0
West Lincoln	14.7	6.1	51.6	15.7	0.7	0.0	8.1	3.1
<u>1986</u>								
Regional tier	6.8	24.2	10.6	21.5	3.8	32.0	0.1	1.1
Lower tiers	12.6	13.7	29.7	20.3	1.7	0.7	16.6	4.7
Total	9.8	18.7	20.5	20.9	2.7	15.8	8.7	2.9
<u>1977</u>								
Regional tier	5.2	25.2	15.9	18.6	4.0	30.2	0.0	1.0
Lower tiers	11.9	12.0	32.7	18.8	2.0	0.6	18.1	3.9
Total	8.9	17.9	25.2	18.7	2.9	13.8	10.0	2.6

Source: Todd (1988), Table 9 (published and unpublished)

e) Expenditures by Object

Expenditures are made on various objects such as wages, salaries and benefits, debt charges, transfers to own funds and so forth. Of particular interest in this study are expenditures on wages and salaries and net long term debt charges.

It has often been argued (see, for example, Baumol, 1967) that one of the reasons for local government expenditure growth is the large component of wages and salaries in municipal budgets. Salaries, wages and employee benefits as a percentage of total operating expenditures in 1986 were 47.1 percent. This percentage was down slightly from 1977 when it represented 48.8 percent of the total. Salaries and wages take up a larger proportion of budgets for some functions than for others. For example, salaries, wages and benefits accounted for almost 83 percent of expenditures on protection (82.9 percent for police and 85.6 percent for fire protection) but only 21 percent of expenditures on the environment.

Interestingly, the proportion of expenditures on wages and salaries is somewhat higher at the regional level (48.2 percent) than at the local level (46.1 percent). This difference could reflect a number of factors including that the functions performed by regional governments are more labour-intensive, that wages and salaries are higher at the regional level, that contracting out practices are different and so forth. It would be necessary to test empirically an appropriate model of expenditure behaviour to determine the reasons for these differences.

Net long term debt charges only absorbed 9.7 percent of total expenditures in Niagara in 1986, down only slightly from 10.0 percent in 1977. The expenditure category where debt charges are most significant is environmental expenditures, where they represented 30.6 percent of total expenditures. At the regional level, debt charges were 12.2 percent of total expenditures in 1986; at the local level, they were only 7.4 percent. Thus, it appears that the regional government relies more on debt financing than do the local governments in Niagara.

f) Comparative Expenditure Analysis

Table 3 summarizes the annual average rate of growth in per household expenditures for a number of two tier and single tier municipalities in Ontario (real expenditures per household were unavailable for the other municipalities). It is always difficult to make comparisons across municipalities because the situation in each municipality is unique. Regional governments may have been introduced at different times, the responsibilities of regional as opposed to local governments may differ across jurisdictions, the age of the infrastructure may be different and other factors may have an impact on the quantitative estimates. Thus, although the comparisons may appear to be interesting, they may not be all that meaningful.

In any event, Table 3 summarizes expenditures per household for 1986 and the annual average growth rates for six two tier municipalities in Ontario (Niagara, Hamilton-Wentworth, Metropolitan Toronto, Ottawa-Carleton, Sudbury and Waterloo) and three single tier municipalities (London, Thunder Bay and Windsor). Expenditures per household ranged from a low of \$2,001 in

Table 3

Expenditures Per Household, Selected Municipalities, 1986

	Expenditures per Household (\$)	Annual Average Increase 1977-86 (%)
<u>Two tier</u>		
Niagara	2,285	7.9
Hamilton-Wentworth	2,679	7.4
Metro Toronto	3,508	8.8
Ottawa-Carleton	3,341	8.2
Sudbury	2,738	7.0
Waterloo	2,289	7.8
<u>Single tier</u>		
London	2,001	7.3
Thunder Bay	2,954	7.0
Windsor	2,673	8.5

Note: For the two tier municipalities, the data reflect the upper and lower tiers combined.

Source: Todd (1988), Table 45

London to a high of \$3,508 in Metro Toronto. Expenditures per household in Niagara were at the low end of the range at \$2,285 and represented the lowest per household expenditures of the selected two tier municipalities.

Table 3 also shows that the rate of growth in expenditures per household in the Regional Municipality of Niagara has been fairly modest when compared to other two tier and even single tier municipalities in Ontario. The highest growth has been in Metropolitan Toronto at 8.8 percent; the lowest growth rate was in Sudbury and Thunder Bay at 7.0 percent. With an annual average growth rate of 7.9 percent, Niagara is roughly in the middle of the range.

As noted above, no firm conclusions can be drawn from Table 3, except perhaps that the growth in expenditures per household is unrelated to the the number of tiers of government. It is necessary to compare many different characteristics of each municipality to determine whether the differences in growth rates are significant and why growth rates differ.

Table 4 shows the distribution of expenditures by function for the selected municipalities for 1986. Again, comparisons across municipalities create problems because of the different activities in each municipality and because Table 3 only summarizes the distribution for one year, 1986.

The distribution of expenditures in the Regional Municipality of Niagara follows the pattern of expenditures in other Ontario municipalities. However, in Niagara, environmental expenditures represent a relatively larger proportion of total expenditures than in most other municipalities (with the exception of London).

It is difficult to know the reasons why the pattern of expenditures is so similar across municipalities in Ontario, whether they are one tier or two tier structures. As noted in Slack (1988c), provincial control over the expenditure functions that local governments are responsible for and the imposition of provincial standards, combined with the strings attached to provincial-municipal grant programs, mean that municipalities have little flexibility to be fiscally different. The issue of provincial-municipal control is discussed further below.

Table 5 shows the distribution of expenditures by level of government for selected two tier municipalities in Ontario. Specifically, it shows the proportion of total expenditures accounted for by the regional level of government. A number of conclusions can be drawn from Table 5:

1. In all of the two tier municipalities, fire protection is entirely a local function.
2. With the exception of the Regional Municipality of Ottawa-Carleton, police protection is a regional function in all of the selected two tier municipalities.

Table 4

Distribution of Expenditures, Selected Municipalities, 1986
(percent)

	Niag.	Ott- Carl	Ham- Went	Metro Toronto	Sud- bury	Water- loo	Lon- don	Thun- der Bay	Windsor
General gov't	10	11	8	10	16	12	9	6	10
Protection	19	15	18	20	15	20	19	20	19
Transportation	20	30	23	26	21	22	20	19	18
Environmental	21	14	16	13	17	14	22	13	20
Health	3	2	3	4	4	3	3	3	2
Social and Family Services	16	16	17	15	16	13	17	22	15
Recreation and Culture	9	9	12	12	9	14	9	14	13
Planning	3	3	4	2	2	2	2	3	2
TOTAL	100	100	100	100	100	100	100	100	100

Notes: 1. This breakdown includes the expenditures of the upper and lower tiers combined.

2. Totals may not add due to rounding

Source: Todd (1988), Table 46

Table 5

Division of Functions, Selected Regional Municipalities
1986

Regional Expenditures as a Percentage
of Total Expenditures
(%)

Expenditure Item	Niag.	Ott- Carl	Ham- Went	Metro Toronto	Sudbury	Water- loo
Fire protection	0	0	0	0	0	0
Police protection	100	0	100	100	100	100
Roadways	33	50	40	34	35	33
Transit	0	100	98	100	0	0
Sewers	63	62	97	63	89	57
Water	56	100	100	67	100	49
Garbage	0	29	67	47	25	54
Social and family services	98	97	92	100	98	96
Recreation and culture	0	1	8	35	0	5
Planning and development	18	31	33	25	91	15
TOTAL	48	54	62	65	58	43

Source: Todd (1988), Table 42

3. Roadways is a function that tends to be shared between the two levels of government. The regional portion ranges from 33 to 50 percent of total expenditures on roadways; Niagara is at the low end of the range at 33 percent of expenditures made by the regional tier.

4. Transit tends to be either regional or local but not shared. It is regional in Ottawa-Carleton, Hamilton-Wentworth and Metro Toronto; it is local in Niagara, Sudbury and Waterloo.

5. Sewers are generally shared between the two levels of government, with the exception of Hamilton-Wentworth where they are provided by the regional government. In Niagara, 63 percent of expenditures on sewers are made by the regional government.

6. Water services are provided entirely by the regional government in Ottawa-Carleton, Hamilton-Wentworth and Sudbury. In the other selected two tier municipalities, water services are shared. In Niagara, 56 percent of water expenditures are made by the regional government.

7. In most two tier municipalities in Table 5, garbage collection is lower tier and garbage disposal is upper tier. The exception is Niagara where all garbage costs are incurred at the lower tier level.

8. Social and family services is a regional function in all of the two tier municipalities.

9. Recreation and culture is largely local in all of the selected two tier municipalities. The upper tier in Metro Toronto has the greatest involvement at 35 percent of total expenditures.

10. Planning and development is generally shared by both levels, except in Sudbury where planning is entirely regional and development is shared.

Looking at total expenditures in Table 5, it can be seen that the regional portion of total expenditures ranges from 43 percent in Waterloo to 65 percent in Metro Toronto. In the Regional Municipality of Niagara, regional expenditures make up approximately 48 percent of total expenditures. This appears at the low end of the range in terms of regional government involvement presumably because of the lack of regional government expenditures on transit, garbage, and recreation and culture.

II. Revenue Analysis

Generally, on the operating side of a municipal budget, revenues are equal to expenditures in Ontario municipalities. This is a direct result of the provincial requirement that municipalities not run a deficit in their operating budgets. However, in some years in the Niagara Region, revenues have exceeded expenditures by as much as \$5 million (for example, in 1981 and 1984), thus leading to surpluses.

The analysis of revenues is presented for a) the Niagara Region (upper and lower tiers combined), b) the regional tier, c) the lower tiers combined, and d) revenues in each municipality. There is also e) a comparative analysis.

a) The Niagara Region (upper and lower tiers combined)

In 1986, the total revenues collected in the Niagara Region amounted to just over \$323 million, or an amount that is comparable to total operating expenditures in that year. As with expenditures, the annual average growth rate in revenues over the period 1977 to 1986 was 8.1 percent.

On a per household basis, revenues per household in 1986 were \$2,290; real revenues per household grew over the period 1977 to 1986 at an annual average rate of 0.2 percent.

b) The Regional Tier

For the regional municipality alone, revenues collected in 1986 amounted to almost \$156 million or 48 percent of the total revenues of both tiers. Property taxes accounted for 42.0 percent of total revenues at the regional level, conditional grants for 26.4 percent and unconditional grants for 13.4 percent. Unfortunately, the reporting of revenues in the MARS database (the source of data for this study) creates major problems for determining the breakdown of revenues at the regional level. In particular, the amount of property taxes reported by the regional level does not correspond to what the lower tiers claim that they have collected on behalf of the regional level. The difference can be attributed in part to the treatment of some user charges (such as water and sewer charges) but the exact nature of the discrepancy is unknown. For this reason, the distribution of revenues can only be determined for property taxes and provincial grants with all other sources of revenue (including user charges) being classified as "other revenues."

Over the period 1977 to 1986, real revenues per household grew at an annual average rate of 0.8 percent. Property taxes increased at 1.6 percent per year on average, unconditional grants declined by 1.3 percent per year and conditional grants increased at a rate of 1.1 percent per year on average. Again, it is not possible to determine what has happened to user charges over the period, given the available data. However, other revenues (including user fees) rose by 0.4 percent per year on average.

c) The Lower Tiers Combined

Revenues collected by the lower tiers in 1986 were under \$168 million. Over 57 percent were property taxes, almost 17 percent were provincial grants (8.5 percent unconditional; 8.4 percent conditional), almost 11 percent were user fees, almost 8 percent were other revenues and 6.5 percent were payments in lieu of taxes. The distribution of revenues was roughly similar in 1986 to what it had been in 1977: property taxes rose only slightly as a proportion of total revenues, provincial grants fell (especially conditional grants) and user fees rose.

In real terms per household, property taxes fell at an annual average rate of 0.6 percent from 1977 to 1986. Ontario conditional and unconditional grants also fell -- at an annual average rate of 3.0 percent and 1.0 percent respectively. User fees increased at an annual average rate of 1.3 percent.

d) Revenues in Each Municipality

A brief summary of revenues per household, growth in revenues and the distribution of revenues for each of the municipalities in the Niagara Region appears in Tables 6 and 7.

Table 6 summarizes the revenues per household for 1986 and the annual average growth in real revenues per household for each of the municipalities in the Regional Municipality of Niagara. For the Region as a whole (upper and lower tiers combined) revenues per household were \$2,290 and the annual average increase in real revenues per household was 0.2 percent. For the regional tier, revenues per household were \$1,103 and the annual average rate of growth was 0.8 percent; for the lower tiers combined, revenues per household were \$1,188 and the annual average rate of decline in real revenues per household was 0.3 percent. The highest revenues per household were \$1,382, collected in Niagara Falls and \$1,311, collected in Port Colborne. The lowest revenues per household were in Wainfleet at \$689 and Pelham at \$803.

As with expenditures, then, the growth in revenues has been greater at the regional level than at the lower tier level. In most municipalities (with the exception of St. Catharines, Fort Erie, Lincoln, Wainfleet and West Lincoln) real revenues per household fell over the period 1977 to 1986.

Table 7 shows the distribution of revenues for the municipalities in the Niagara Region for 1986. Several conclusions can be drawn from Table 7:

1) Property taxes range from a low of 36.3 percent of total revenues in West Lincoln to a high of 64.6 percent in Thorold. Generally, property taxes at the local level in the Regional Municipality of Niagara account for between 50 and 60 percent of total revenues.

2) Payments in lieu of taxes are important sources of revenue in Niagara Falls and Niagara-on-the-Lake where they make up over 10 percent of total revenues. They are less significant in the other municipalities in the Region.

3) Provincial grants range from 12.5 percent of total revenues in Niagara Falls to 45.1 percent in West Lincoln. Table 6 shows that there is considerable variability in the proportion of total revenues accounted for by provincial grants across municipalities in the Region.

4) User charges range from a low of 5.0 percent of total revenues in Port Colborne to a high of 22.5 percent in Wainfleet.

Table 6

Revenues per Household, by Municipality, Regional Municipality of Niagara,
1986

	Revenues per Household	Annual Average Growth in Real Revenues per Household, 1977-86
	(\$)	(%)
Niagara Falls	1,382	(1.0)
Port Colborne	1,311	(1.2)
St. Catharines	1,253	0.9
Welland	1,127	(1.1)
Thorold	1,108	(2.2)
Fort Erie	919	0.4
Grimsby	1,032	(2.2)
Lincoln	1,062	0.1
Niagara-on-the-Lake	1,143	(0.9)
Pelham	803	(1.9)
Wainfleet	689	1.2
West Lincoln	1,176	0.7
Regional tier	1,103	0.8
Lower tiers	1,188	(0.3)
Total	2,290	0.2

Note: Negative numbers appear in brackets

Source: Todd (1988), Table 17 (published and unpublished)

Table 7

Distribution of Revenues, by Municipality, Regional Municipality of
Niagara, 1986
(percent)

	Property Taxes	PIL's	Prov'l Grants	Other Grants	User Fees	Other Revs.	Total
Niagara Falls	58.1	12.1	12.5	0.2	8.0	9.1	100.0
Port Colborne	58.9	7.8	21.4	1.0	5.0	5.9	100.0
St. Catharines	57.0	4.1	16.4	0.7	15.1	6.7	100.0
Welland	61.3	7.2	15.8	1.6	8.3	5.8	100.0
Thorold	64.6	8.4	13.9	0.0	5.5	7.5	100.0
Fort Erie	59.8	3.3	22.5	0.1	5.7	8.6	100.0
Grimsby	56.6	2.6	17.1	4.6	10.9	8.3	100.0
Lincoln	56.3	3.9	20.3	0.2	10.8	8.5	100.0
Niagara-on- the-Lake	50.9	10.7	12.7	0.3	14.4	11.0	100.0
Pelham	49.4	0.7	22.0	0.2	9.3	18.4	100.0
Wainfleet	40.6	0.1	27.3	1.7	22.5	7.7	100.0
West Lincoln	36.3	0.7	45.1	0.3	8.9	8.8	100.0
<u>1986</u>							
Lower tiers	57.3	6.5	16.9	0.8	10.7	7.8	100.0
<u>1977</u>							
Lower tiers	56.9	5.5	20.0	1.7	9.0	6.9	100.0

Note: Totals may not add due to rounding.

Source: Todd (1988), Table 18 (published and unpublished)

e) A Comparative Analysis

Table 8 compares revenues per household in 1986 and the annual average growth for selected two tier and single tier municipalities in Ontario. As noted with respect to the expenditure analysis, data on real revenues per household were not compiled for comparative purposes.

Revenues per household range from a low of \$1,961 in London to a high of \$3,539 in Metro Toronto. In terms of the growth in revenues per household, the range is from 6.9 percent in Sudbury to 8.8 percent in Metro Toronto. Over the period 1977 to 1986, the annual average growth in revenues per household in the Niagara Region was 7.8 percent. This estimate appears in the middle of the range.

Table 9 presents the distribution of revenues among property taxes, provincial grants and other revenues (including payments in lieu of taxes, other grants, user fees and miscellaneous revenues) for 1986 for selected municipalities in Ontario. Two differences across municipalities can be noted. First, provincial grants tend to be higher in the northern municipalities than in the rest of the province because of special northern grants designed to reflect differential needs and costs. Second, the property tax as a proportion of total revenues ranges from a low of 31 percent in Metro Toronto to a high of 47 percent of total revenues in Windsor. On average, there tends to be a greater dependence on the property tax in single tier municipalities than in two tier municipalities. In the Regional Municipality of Niagara, property taxes accounted for 42 percent of total revenues in 1986 -- the greatest reliance on property taxes in the selected two tier municipalities.

III. Property Tax Analysis

The property tax is the largest single source of revenue for local governments in Niagara, as well as in the rest of the province. It is also the only source of revenue exclusively available to local and regional governments (and school boards). For this reason, and because of recent concerns over the use of the property tax, this section is devoted to an analysis of the property tax in the Regional Municipality of Niagara and in other selected municipalities in Ontario.

a) Average Property Taxes per Household

Table 10 shows the average (residential) property tax per household (including upper tier, lower tier and school taxes) by municipality in the Niagara Region in 1986. Property taxes per household range from \$1,112 in Wainfleet to \$2,432 in Thorold. In the majority of municipalities in Niagara, property taxes were less than \$2,000 per household in 1986, but there was still considerable variability across municipalities.

Table 8

Revenues per Household, Selected Municipalities, 1986

	Revenues per Household (\$)	Annual average increase (%)
<u>Two tier</u>		
Niagara	2,290	7.8
Hamilton-Wentworth	2,721	7.4
Metro Toronto	3,539	8.8
Ottawa-Carleton	3,359	8.7
Sudbury	2,778	6.9
Waterloo	2,287	7.6
<u>Single tier</u>		
London	1,961	7.2
Thunder Bay	2,960	6.9
Windsor	2,713	8.4

Note: Revenues include gross revenues from all sources. In the case of two tier municipalities, both tiers are combined.

Source: Todd (1988), Tables 48 and 50

Table 9

Distribution of Revenues by Source, Selected Municipalities, 1986
(percent)

	Property Taxes	Provincial Grants	Other Revenues	Total
<u>Two tier</u>				
Niagara	42	40	18	100
Hamilton-Wentworth	32	34	34	100
Metro Toronto	31	27	42	100
Ottawa-Carleton	35	33	31	100
Sudbury	33	49	28	100
Waterloo	35	39	25	100
<u>Single tier</u>				
London	43	29	28	100
Thunder Bay	36	40	24	100
Windsor	47	27	26	100

- Notes:
1. For two tier municipalities, revenues include upper and lower tier revenues
 2. Totals may not add due to rounding.
 3. Other revenues include: payments in lieu of taxes, other grants, user fees and miscellaneous revenues.

Source: Todd (1988), Tables 51 and 52

Table 10

Average Property Taxes per Household, by Municipality, Regional
Municipality of Niagara, 1986

(\$)

Niagara Falls	2,118
Port Colborne	1,891
St. Catharines	1,924
Welland	2,015
Thorold	2,432
Fort Erie	1,382
Grimsby	1,910
Lincoln	1,903
Niagara-on-the-Lake	2,074
Pelham	1,630
Wainfleet	1,112
West Lincoln	1,796
Niagara Region	1,937

Note: Average property taxes per household includes residential upper tier, lower tier and school taxes (including water and sewer billings).

Source: Todd (1988), Table 19 (unpublished)

For the region as a whole, property taxes per household grew at an annual average rate of 0.3 percent over the period 1977 to 1986. Property taxes per household of the regional government grew at an annual average rate of 1.6 percent; lower tier taxes fell at an annual average rate of 0.6 percent; and school taxes grew at 0.4 percent per year, on average. In other words, the major source of growth in property taxes over the period came from the regional level of government.

Table 11 compares property taxes per household for selected municipalities in Ontario in 1986. Property taxes ranged from \$1,689 per household in London to \$3,152 in Metro Toronto. The Niagara Region, at \$1,937 per household, is roughly in the middle of the range for the selected municipalities.

b) The Division between Upper Tier, Lower Tier and School Taxes

In all municipalities in Ontario, it is only the lower tier of government that collects property taxes. School boards and regional governments determine their property tax requirements and then levy these amounts on the lower tier. The lower tier collects these taxes on behalf of the other two governments, as well as to meet its own expenditure requirements.

The collection of taxes by the lower tier means that a taxpayer mails one cheque to the lower tier to cover upper tier, lower tier and school taxes. Not surprisingly, the lower tier is often blamed for tax increases because that is where the cheque is being mailed. The lower tier has no control or input into the tax decisions of the other two levels. Thus, the lower tier can feel constrained in its own decisions concerning mill rates: if school board taxes increase dramatically in one year, for example, the lower tier may feel pressure to keep its own tax rates down.

Table 12 shows the division of property taxes among the upper tier, the lower tier and school boards for selected municipalities in Ontario (including the Region of Niagara) for 1986. Generally, school boards account for between 45 and 50 percent of the total property taxes collected. In the two tier municipalities, the school board levies, by far, the largest proportion of the property taxes. In single tier and two tier municipalities, the school board accounts for a similar proportion of the taxes levied.

In the two tier municipalities, the upper tier levies between 23 and 29 percent of the total property taxes. In Niagara, the upper tier portion is less than that levied by the lower tiers (combined), but this is not true for all of the other selected municipalities in Ontario.

For the lower tier in two tier municipalities, Table 12 shows that it is collecting between 70 and 80 percent of tax on behalf of other governments. In single tier municipalities, the municipal government is collecting between 46 and 50 percent of the taxes for the school board.

Table 11

Average Property Taxes per Household, Selected Municipalities, 1986
(\$)

Two tier

Niagara	1,937
Hamilton-Wentworth	2,113
Metro Toronto	3,152
Ottawa-Carleton	2,413
Sudbury	1,877
Waterloo	1,958

Single tier

London	1,689
Thunder Bay	1,983
Windsor	2,369

Note: See Notes to Table 10.

Source: Todd (1988), Tables 52 and 53

Table 12

Division of Property Taxes, Selected Municipalities, 1986
(percent)

	Upper tier	Lower tier	School	Total
<u>Two tier</u>				
Niagara	23.9	31.2	44.9	100.0
Hamilton-Wentworth	26.2	28.6	45.2	100.0
Metro Toronto	28.9	20.7	50.4	100.0
Ottawa-Carleton	27.0	23.2	49.8	100.0
Sudbury	29.1	24.1	46.8	100.0
Waterloo	22.9	29.5	47.6	100.0
<u>Single tier</u>				
London	n.a.	49.8	50.2	100.0
Thunder Bay	n.a.	54.1	45.9	100.0
Windsor	n.a.	54.1	45.9	100.0

Note: Totals may not add due to rounding.

Source: Todd (1988), Table 53

c) Division of Taxes between Residential and Commercial and Industrial Property

It is generally believed that commercial and industrial property is more valuable than residential property from the point of view of property tax collections for two reasons. First, the Province has legislated that the mill rate be 15 percent higher on commercial and industrial property than on residential property. Second, under current assessment practices, commercial and industrial property is assessed at a higher ratio of market value than is residential assessment. Third, an additional business tax is levied on non-residential property. For these reasons, then, a dollar of commercial and industrial assessment is considered to be worth more than a dollar of residential assessment. Thus, the division between commercial and industrial assessment and residential assessment is important.

Table 13 shows the ratio of residential to total assessment by municipality for the Regional Municipality of Niagara for 1986. Residential assessment, on average for the Region, accounts for over 57 percent of total assessment. The range is from 44.7 percent in Thorold to 83.5 percent in Wainfleet and there is considerable variability within that range.

Table 14 compares the ratio of residential to total assessment for other selected municipalities in Ontario. Here the range is from 41.8 percent in Thunder Bay to 57.3 percent in Niagara. In other words, the Region of Niagara is a relatively more residential community than are the other selected municipalities in Ontario.

IV. Capital Expenditures and Revenues

This section analyzes the capital expenditures by function in the Regional Municipality of Niagara and the sources of financing capital expenditures. Because capital expenditures respond to different needs in different municipalities and because the age and state of the infrastructure is different across regions, a comparative analysis is not considered to be appropriate. Thus, this section of the study concentrates only on municipalities in the Niagara Region.

a) Analysis of Capital Expenditures in the Regional Municipality of Niagara

Total capital expenditures in the Regional Municipality of Niagara in 1986 were just under \$61 million. The largest proportion of these expenditures were for transportation (mainly roadways) which represented 41 percent of the total followed by 38 percent for environmental purposes (mainly sanitary sewers). The remaining 21 percent of capital expenditures were largely for recreation and culture, planning, protection and general government.

Table 13

Ratio of Residential to Total Assessment, by Municipality, Regional
Municipality of Niagara, 1986

(percent)

Niagara Falls	47.7
Port Colborne	53.3
St. Catharines	61.2
Welland	49.4
Thorold	44.7
Fort Erie	62.7
Grimsby	69.7
Lincoln	69.8
Niagara-on-the-Lake	64.6
Pelham	81.8
Wainfleet	83.5
West Lincoln	77.5
Niagara Region	57.3

Source: Todd(1988), Table 20 (unpublished)

Table 14

Ratio of Residential to Total Assessment, Selected Municipalities, 1986

(percent)

Two tier

Niagara	57.3
Hamilton-Wentworth	50.5
Metro Toronto	44.0
Ottawa-Carleton	52.7
Sudbury	47.7
Waterloo	55.9

Single tier

London	54.9
Thunder Bay	41.8
Windsor	48.9

Source: Todd (1988), Table 53

The division between the regional and lower tiers in Niagara indicates that, in general, the lower tiers make a greater percentage of capital expenditures. In 1986, for example, the lower tiers accounted for over 66 percent of total capital expenditures in the Region whereas the regional tier accounted for only 34 percent. The bulk of lower tier expenditures was for transportation followed by environmental expenditures; the bulk of regional capital expenditures was for environmental purposes followed by transportation. Interestingly, in the Regional Municipality of Ottawa-Carleton in 1986, capital expenditures by the regional government accounted for the largest proportion of the total at 65 percent.

Although there has been no particular trend in capital expenditures over the period 1977 to 1986, the two largest components have generally been transportation and environmental. It is not surprising that there is no other pattern to capital expenditures because these types of expenditures tend to be lumpy in nature. In other words, if sanitary sewers are constructed in one year in one municipality, these expenditures would have no bearing on other capital expenditures in other municipalities in other years.

Capital expenditures in each municipality in the Niagara Region also do not show any particular pattern. Rather, these expenditures are made in response to needs for infrastructure and availability of financing. Table 15 shows the amount of capital expenditures by municipality in the Region for 1986. These expenditures range from a low of \$331,000 in the Township of West Lincoln to a high of \$12 million in St. Catharines. Again, looking at expenditures in one particular year only indicates the requirements in that year and bears no relationship to expenditures in other years. As noted earlier, the bulk of expenditures have tended to be transportation and environmental expenditures with more limited commitments to recreation and culture, protection and planning.

b) Analysis of Sources of Financing Capital Expenditures in the Regional Municipality of Niagara

Total financing for capital expenditures in the Regional Municipality of Niagara in 1986 were \$64 million, an amount which is \$4 million higher than capital expenditures in that year. Of this total, almost 50 percent came from contributions from own funds, 27 percent from long term liabilities, 19 percent from grants and loan forgiveness and almost 4 percent from other sources.

Over the period 1977 to 1986, grants and loan forgiveness have generally accounted for between 20 and 30 percent of the total sources of capital financing, with a couple of exceptions. Contributions from own funds have ranged from roughly 30 percent to 50 percent of the total; long term liabilities have ranged from 26 percent to 46 percent.

On average over the period 1977 to 1986, the regional tier has relied more heavily on long term liabilities than have the lower tiers. The lower tiers have made relatively greater use of contributions from own funds. Since it is generally easier for regional governments to borrow money in financial markets than for smaller local governments, it is not surprising that the regional tier depends relatively more heavily on long term liabilities.

Table 15

Capital Expenditures by Municipality, Regional Municipality of
Niagara, 1986

(\$,000)

Niagara Falls	8,792
Port Colborne	1,934
St. Catharines	12,016
Welland	5,393
Thorold	798
Fort Erie	2,889
Grimsby	2,407
Lincoln	1,443
Niagara-on-the-Lake	1,607
Pelham	1,020
Wainfleet	1,864
West Lincoln	331
Region	20,475
Lower tiers	40,496
Total	60,970

Source: Todd (1988), unpublished Table 21

Table 16 summarizes the sources of capital financing for each of the municipalities in Niagara. The distribution varies quite dramatically across municipalities, and indeed, a look at the distribution over time shows that it also varies considerably within municipalities over the period. In most municipalities, however, Table 16 shows a preference for contributions from own funds rather than long term liabilities.

Table 16

Sources of Financing Capital by Municipality, Regional Municipality
of Niagara, 1986

(percent)

	Own Funds	Long term Liabilities	Grants and Loan Forgive- ness	Other	Total
Niagara Falls	74.5	13.6	8.4	3.5	100.0
Port Colborne	34.4	52.0	8.8	4.8	100.0
St. Catharines	61.3	12.7	22.9	3.1	100.0
Welland	37.3	30.8	25.5	6.4	100.0
Thorold	73.4	0.0	7.0	19.5	100.0
Fort Erie	62.5	3.0	26.8	7.7	100.0
Grimsby	77.5	0.4	21.5	0.5	100.0
Lincoln	64.1	10.2	21.2	4.4	100.0
Niagara-on- the-Lake	28.8	61.3	8.7	1.2	100.0
Pelham	65.5	4.0	23.7	6.8	100.0
Wainfleet	22.5	18.1	54.4	5.0	100.0
West Lincoln	68.6	5.7	10.6	15.1	100.0
Region	39.8	37.1	20.0	3.1	100.0
Lower tiers	56.2	20.9	18.4	4.4	100.0
Total	49.8	27.2	19.0	3.9	100.0

Source: Todd (1988), unpublished Table 22

B. THE ISSUES

This part of the study addresses some of the issues in the revenue and expenditure analysis. These issues are discussed under expenditure analysis, property tax and revenue analysis and capital expenditure and revenue analysis.

I. Expenditure Analysis

The two main expenditure issues are: a) the growth in government expenditures in the Niagara Region over the decade 1977 to 1986 and the reasons for that growth and b) the appropriate division of functions between the two tiers of government.

a) The Growth in Government Expenditures in the Niagara Region

The analysis of expenditures in the Region of Niagara over the period 1977 to 1986 suggested that expenditures grew at an annual average rate of 8.1 percent. Expenditures by the regional government grew at an annual average rate of 8.9 percent and those of the lower tiers at 7.4 percent. The purpose of this section is to explain the reasons for the growth in expenditures.

A proper analysis of the growth in government expenditures would require the formulation of an economic model of the expenditure behaviour of local governments, including a number of variables which are assumed to affect the quantity of expenditures. Such a model would then be tested empirically to determine the significance of each of these variables, while holding all of the other variables constant. A review of the literature on these types of models (both political and bureaucratic) and the empirical findings is provided in Slack (1988c).

Unfortunately, there are insufficient data to test such a model for the Niagara Region. Consequently, this section uses the empirical results from other models to address some of the reasons why expenditures may have grown in the Niagara Region. It should be remembered, however, that several factors are operating at the same time to influence expenditures and no single variable alone can explain expenditure growth. The advantage of a model is that it can isolate the impact of each variable while holding the others constant.

The following explanations are considered: population growth and demographic change, inflation, increased volume and level of services, labour intensity of municipal services, and provincial control over municipal expenditures.

(i) population growth and demographic change

One explanation for the growth in government expenditures in Niagara is simply that the number of households has increased over the period 1977 to 1986. When the total number of households increases, expenditures also increase. For this reason, the expenditures were analyzed in per household terms. The annual average increase in expenditures per household was 7.9 percent for upper and lower tiers combined, 8.8 percent for the regional tier and 7.1 percent for the lower tiers. Since the growth in per household

expenditures is less than the growth in total expenditures, it appears that an increase in households has been one factor in the increase in expenditures.

An increase in the number of households will also affect the expenditures per household because of increased density in the Region. It is possible that the demand for services increases more than proportionately with an increase in households. In other words, the increased density may result in a greater demand for some services (for example, police services or social services) where increased density affects service delivery.

As noted in Slack (1988c), demographic change may also affect the demand for expenditures in a municipality. The increased educational expenditures in the 1980s, for example, was a direct result of the baby boom. As Foot (1984) notes, the demographic trends are towards an aging population which will require greater services from the federal government (for pensions) and provincial governments (for health) rather than from local governments.

However, a change in the composition of the population does not necessarily mean reduced expenditures for local governments. In education, for example, a declining student population has not meant that expenditures have fallen concomitantly. Rather, the fixed costs have remained and more sophisticated and costly programs have been introduced. Thus, the pressure on local governments to make expenditures may ease with changing demographics but it is not clear that costs will be reduced at the same rate.

(ii) inflation

A second reason for the growth in municipal expenditures is inflation, a factor beyond the control of municipal governments. In other words, the prices of goods and services have risen everywhere in the economy and it is thus necessary to look at the growth in real expenditures. Expenditures in real terms grew at an annual average rate of 1.3 percent for the Region, 2.0 percent for the regional tier and 0.6 percent for the lower tiers. Even without a sophisticated model of the expenditure behaviour of governments in the Niagara Region, it appears that inflation is a significant reason for that increase.

(ii) increased volume and level of services

The volume of service is the total amount of the service provided within a municipality; the level of service is the amount of service available per unit of population, for example, per 1000 people. The volume of service tends to increase with population increases and the general growth of the municipality. The level of service is much more difficult to measure because it considers both the increased service and the quality of the service. It is possible that expenditures have increased because more and better services are being provided than previously. This phenomenon is difficult to substantiate because it requires quantitative measures of output and of quality (see Auld, 1988). Since these are not easily determined, it was not possible to say how much of the growth of expenditures in Niagara can be attributed to increases in the level of service.

(iv) labour intensity of municipal services

According to the Baumol (1967) hypothesis, municipal expenditures have grown rapidly because municipal services are relatively labour intensive. According to this theory, the economy can be divided into a progressive and a non-progressive sector. Local government services fall into the non-progressive sector because they are relatively labour intensive and benefit little from productivity increases. For example, technological advances may increase productivity for services such as sewage treatment and transportation but they are less likely to reduce the need for social service workers. Thus, productivity increases do not play a major role for many of the services provided by municipal governments.

However, because the public and private sector labour markets are interrelated, increased wages in one sector will affect wages in the other sector. Thus, in the private sector for example, increased productivity is matched by increased wages and there are no increases in real costs. In the municipal government sector, according to this hypothesis, there are little or no productivity increases but wages are rising nonetheless. The result is increased costs for municipal governments.

Turning to the Regional Municipality of Niagara, it is again difficult to test this hypothesis without a properly specified model. The expenditure analysis earlier suggested that expenditures on wages and salaries accounted for over 47 percent of total expenditures, down from almost 49 percent in 1977. Thus, wages and salaries form a considerable portion of the municipal budget, although declining somewhat.

The analysis also showed that wages and salaries form a larger proportion of regional budgets than of lower tier budgets (48 percent compared to 46 percent). The Baumol hypothesis might explain the faster growth in regional government expenditures by the relatively greater labour intensity of regional government services. Again, this hypothesis requires empirical testing before any conclusions can be drawn.

(v) provincial control over municipal expenditures

One reason often given by municipalities for the increased growth in expenditures is that the provincial government mandates certain programs and certain standards to be met. With an increase in the standards being imposed, municipal expenditures automatically increase but, municipalities would argue, these increases are beyond their control. For example, the provincial Ministry of the Environment has recently increased the environmental requirements for the treatment of sanitary sewage and overflows, thus necessitating increased municipal expenditures. Under the General Welfare Assistance Act, the Province sets down the conditions under which allowances are paid to welfare recipients and these conditions do change over time resulting in increased municipal expenditures on this function.

Notwithstanding the above two examples, it is difficult to test the hypothesis that increased provincial requirements have been responsible for increased municipal spending. First, in the absence of knowing which provincially mandated programs would have been undertaken by municipalities in any event and which are purely designed to meet provincial standards, it

is impossible to know the influence of the Province in some program areas. In the case of social services, for example, it is assumed that regional governments would provide some welfare services even in the absence of a provincial government mandate but the magnitude and nature of these regional services is unknown.

Second, many provincial standards and regulations also apply to the private sector and thus do not increase the relative growth in municipal expenditures. For example, regulations concerning Workers' Compensation and Occupational Health and Safety apply to all employers and not just municipal governments. Changes in these regulations can result in increased expenditures but not for municipal governments alone.

Third, provincial programs are not necessarily binding in the sense that the Province may offer some funding if certain conditions are met but the municipality has the authority to reject the funding and the strings attached to it. For example, with respect to nursing in Niagara, staffing was generally considered to be below that mandated for a minimum level of service. Provincial matching funds to enhance staffing have not been taken up and thus the provincially-defined minimum standard is not being met. In this example, provincially-mandated standards are not binding on the municipality.

Even with all of the above caveats, there is a substantial amount of provincial intervention into the expenditures of municipalities in Ontario. Table 17 shows the provincial presence in regional government programs in Niagara by department. Again, it is impossible to determine how much of the expenditure growth in the Niagara Region can be attributed to increased provincial requirements, but it probably accounts for some of that growth.

(vi) summary

The growth in expenditures in the Regional Municipality of Niagara over the period 1977 to 1986 can be accounted for, to a great extent, by the growth in the number of households and inflation over the period. When expenditures are analyzed in real terms per household, the growth over the period is not particularly large. The main source of growth is at the regional level. The largest expenditure category is social services, a function for which productivity increases are not anticipated and over which there is considerable provincial control. Lower tier governments have experienced a small annual decrease in real terms per household over the same period.

In addition to the number of households and inflation, other possible reasons for the growth have been explored: more and better services are being provided, municipal government expenditures are relatively labour intensive and there has been increased provincial standards and regulations applied to municipal governments.

Table 17

Regional Programs Directed or Initiated by the Province, by Department,
Regional Municipality of Niagara

Senior Citizens

Upgrading Homes
Human Rights
Community Support
Occupational Health and Safety
Pay Equity
Arbitration-Hospital Dispute Act
Workers' Compensation

Personnel (Health and Safety)

Occupational Health and Safety
Pay Equity
Workers' Compensation

Social Services

Spouse in House
Special Assistance in Welfare Recipients
Administrative Subsidy Limitation
General Welfare Assistance
Day Nurseries
Homemaker Nursing

Public Works (Transportation)

Road transfers
Fuel Taxes
Transportation Study Rates
Railway Grade Separation
Storm Drainage
Reduction of Contamination for Construction
Sites
Environmental Assessment
Transportation of Dangerous Goods
Underground Fuel Storage
Dump and Bus Vehicle Safety Inspection
Drivers Hours of Work
Air Brake Endorsement
Occupational Health and Safety Act
Workplace Hazardous Material Information System
Daytime Running Lights

Public Works (Sewage/Env'l)

Change in Effluent Monitoring &
Sampling Requirement
Storm Sewers
Local Works, Detours
Population Projection
Sizing of Pollution Control Plants
Sludge Transfer Facilities
Zoning Bylaws

Planning

Subdivision Plans, Adjustment
Applications, Zoning Amendments
NEC
Protection for Agricultural Land
Niagara Escarpment Studies
Provision of Affordable Housing

Health Services

Shared Funding
Nursing - Family Planning
- Community Mental
Health Program
- AIDS Program
Dental
Nutrition
Public Health Inspection

Source: Prepared by the Regional Municipality of Niagara

b) Division of Functions between Tiers

One of the main issues surrounding regional government is the division of expenditure functions between the two tiers of government. Which level of government should provide which services? This section of the study considers several criteria for answering this question and applies these criteria to services in the Niagara Region. A more detailed analysis of the optimal size of government can be found in Bird and Slack (1983) and Slack (1988c).

It is assumed that the "optimal" level of government for providing a service is one that best provides the desired level at least cost (see Bird and Slack, 1983). Five criteria for the design of government are relevant: economies of scale, spillovers, redistribution, demand considerations and political efficiency.

(i) economies of scale

Economies of scale exist where the per unit cost of producing a particular good or service falls as the quantity provided increases. This may occur because of volume discounts associated with the purchase of inputs or because of organizational or managerial efficiencies (see Kitchen, 1977, p. 126). The optimal size of government, based on this criterion, is one that achieves the lowest possible cost of production. Since a fairly significant population is needed to support the least-cost method, this criterion would suggest that a relatively large jurisdiction provide those services which can benefit from economies of scale.

There are some problems with this criterion, however. First, if different services achieve economies of scale at different scales of production, then the optimal jurisdiction for producing water, for example, may differ from the optimal jurisdiction for producing welfare or transportation services.

Second, one can also reap economies of scale without a large jurisdiction by having some municipalities purchase services from other municipalities. In other words, the consuming municipality does not have to be the producing municipality and thus small jurisdictions can enjoy economies of scale either by selling to other communities or buying from other communities. For example, in Ottawa-Carleton where police protection is a local function, the City of Vanier purchases police services from the City of Ottawa.

Third, some services can be purchased from the private sector, for example, tax services (see Feldman, 1988) and garbage collection and disposal. Evidence (for solid waste collection, in particular) suggests that privatization "saves money without sacrificing quality" (McDavid, 1988, p.114). Although economies of scale is an important criterion for the production of services, it can be achieved without establishing large government units.

Empirical studies of economies of scale in urban services point to the existence of economies for fire protection, electricity, gas, water and sewage treatment. No economies of scale were found for police protection, parks, libraries or education (see Kitchen, 1977, pp.111-124). To determine which services exhibit economies of scale in the Region of Niagara, it

would be necessary to study each service and determine an appropriate measure of output (and quality). Some thoughts on how to go about measuring output and quality are provided in Auld (1988).

In the Regional Municipality of Niagara, water and sewer services are shared responsibilities. Fire protection is a local responsibility, police is regional and recreation and cultural facilities (including parks and libraries) are entirely local. Using the economies of scale criterion, it could be argued that water and sewage treatment should be regional if there are cost savings associated with centralized production and delivery (see Auld, 1988).

With respect to fire protection, however, it has been suggested (see McDavid, 1986) that this service remain a local function because of the existence of volunteer fire departments. The introduction of a regional fire department could result in increased costs because volunteers would be replaced by professionals. McDavid found that, for Canadian municipalities which rely on mixed full-time and part-time fire departments or on all-volunteer departments, there were substantial cost savings.

Finally, it could be argued that the provision of social services enjoy economies of scale in delivery through the use of specialized skills (see Auld, 1988). This is already a regional function in Niagara and in all two tier municipalities in Ontario.

(ii) spillovers

The second criterion to be addressed is spillovers (also known in the economics literature as externalities) where some of the benefits (or costs) of a particular good or service spill over into another jurisdiction. For example, if one municipality builds a road across its jurisdiction and this road is used by residents of other jurisdictions, then there is a spillover in the provision of that road. Where there are spillover benefits, not enough resources will be directed to that service. In the case of the road example, the municipality constructing it will only consider the benefits to its own residents (taxpayers) and not the benefits to residents of other jurisdictions. The most appropriate sized road, from society's perspective, may be much larger. Thus, the municipality constructing the road needs some incentive to make it larger.

One solution is to increase the size of the jurisdiction to include all of the beneficiaries of the service (but this would mean a different size of jurisdiction for each service, as with the economies of scale criterion). The other solution would be a provincial incentive grant to the jurisdiction providing the road to encourage it to make it larger.

Those municipal services which may exhibit spillovers include garbage disposal, planning and development, roads and parks and recreation. In the Regional Municipality of Niagara, garbage collection and disposal are entirely local functions. Of all of the selected two tier municipalities in Ontario (as noted in Table 5) garbage is only purely local in Niagara. In most two tier municipalities, garbage collection is local and garbage disposal is regional. Since the disposal of garbage does have negative spillovers associated with it, it is probably more appropriate that it be a regional function.

Planning and development is a shared function in Niagara, which can be justified on the criterion of spillovers (see Auld, 1988). Those planning decisions which affect others (that is, create spillovers) should be regional; those that are of a local nature (such as rezoning a single piece of land) should be local.

Recreational and cultural facilities are entirely local functions in Niagara. These services tend to be primarily local in all of the selected two tier municipalities. To the extent that there are spillovers, some regional provision may be called for.

(iii) redistribution

The third criterion is redistribution which argues for a larger government to redistribute resources. Where there are relatively wealthy jurisdictions located close to relatively poor jurisdictions, a consolidation could result in a redistribution in favour of the poor jurisdictions. This redistribution would allow all municipalities in the jurisdiction to provide at least some minimum level of service without resorting to unduly high tax rates.

In the Region of Niagara, the regional government provides some services throughout the entire region. The costs of these services are shared among the constituent municipalities on the basis of their wealth, as measured by equalized assessment. In theory, this means that richer municipalities are subsidizing the poorer municipalities. However, as discussed at some length below, the current method of apportioning regional costs creates some difficulties for redistribution.

In terms of a criterion for the provision of services, the premise that a uniform level of service should be provided throughout the region would call for regional provision of social services (see Auld, 1988). Social services, as noted above, are a regional function in Niagara and in all two tier municipalities in Ontario.

(iv) demand considerations

The fourth criterion, demand considerations, suggests that a large number of small jurisdictions, each with its own tax and expenditure package, is most efficient at meeting the demands of residents. Based on the Tiebout hypothesis (see Tiebout, 1956), it is suggested that people "vote with their feet" and move to the jurisdiction where their preferences (for taxes and expenditures) are met. The Tiebout hypothesis states that small, homogeneous communities may be more efficient, from a demand point of view, than larger, more heterogeneous government units because the latter provide uniform services to people who have different preferences for them.

One of the ways of addressing these demand considerations in municipalities other than Niagara has been through the use of "urban service areas" for such services as water, sewers, transit and day care. For example, in Ottawa-Carleton, these services are provided by the regional government from a special area rate. The regional government provides the service and apportions the costs to those municipalities or parts of municipalities in the urban service area. The municipalities then charge their residents

through general property taxes, special mill rates or user charges. In the case of day care, for example, residents in the urban areas wanted it and those in the rural areas did not. The creation of an urban service area was a response to differential demands in the Region.

Not only do urban service areas address demand considerations, but where the local governments levy a user charge or special area rate, the result is improved efficiency in the provision of these services to the community.

(v) political efficiency

The fifth criterion is political efficiency, which generally refers to "access" by local citizens to municipal decision-making. This means that the government jurisdiction should be small enough for the average citizen to have some influence on local decisions. Under this criterion, smaller units are more efficient politically.

In terms of services, it could be argued that citizens should have access to planning decisions. As noted above, local planning decisions are made at the local level in Niagara.

(vi) summary

When all of these conflicting criteria are taken together, the optimal structure overall may turn out to be a two tier or multi-tier structure, as in the Region of Niagara. Some services are provided by the upper tier (presumably those characterized by economies of scale or spillovers) and other services are provided by the lower tiers (those that benefit from demand and access considerations).

Although the division of functions between tiers is generally similar to other two tier municipalities in Ontario, it could be argued on spillover grounds that garbage disposal should be moved to the regional level.

II. Property Tax and Revenue Analysis

There are six issues with respect to the property tax and revenues that are discussed in this study: a) the choice of assessment base, b) the apportionment of regional costs, c) the favourable treatment of residential property, d) provincial-municipal grants, e) user charges and f) alternative revenue sources.

a) The Assessment Base

The property tax is levied as a mill rate (measured in tenths of a cent) multiplied by the assessment of the property. Historically, properties in Ontario were assessed by local government assessors but, since 1970, assessment has been a provincial function. Under The Assessment Act, property is to be assessed on the basis of its market value, where market value is defined as the price that would be struck in an arm's length transaction between a willing buyer and a willing seller.

Although the legislation dictates that properties should be assessed according to their market value and the Province has been committed to market value assessment since 1970, market value is not being used in

municipalities across the province. Rather, there are several variants of market value assessment being used and they vary both within and between regions. These different bases and the consequences of the lack of uniformity are described further below.

The main reason that market value assessment has not been implemented uniformly across the province is that there has been considerable opposition on the part of property taxpayers, especially single family homeowners. But, even if there were no opposition, it is important to note that the implementation of a true market value system is a difficult task. First, it is difficult to determine market value. If a property has sold recently in an arm's length transaction, then its market value is simply equal to its sale price. If a property has not sold in many years, however, the determination of its market value necessitates an estimate based on other similar properties that have been sold recently. If there are no similar properties (a situation which occurs especially for commercial and industrial properties carrying on unique activities), then estimating market value is extremely difficult. Thus, the determination of market value itself is problematic and can result in inaccuracies.

Second, and particularly important in today's housing market, is that market values change annually and, in some cases, even monthly or weekly. Market value is estimated at a particular point in time and can thus be out of date very quickly. It is impossible to assess properties monthly or even annually because of the manpower required. So, at best, market value will still be somewhat out of date. Those municipalities in Ontario that currently use some form of market value assessment are generally using 1984 as the latest year.

In summary, even if there were no opposition to market value assessment, the nature of assessing property is such that the assessment on any given property will only be an estimate of its market value and it will likely be out of date.

In the Regional Municipality of Niagara, assessment is, for the most part, based on 1940 values. The exceptions are Niagara Falls which is based on 1980 values, Niagara-on-the-Lake which is based on 1984 values and Wainfleet which is based on 1975 values. As noted above, there are not only variations across regions in Ontario but also within regions.

In order to have uniformity in assessment practices, all properties must be assessed at the same percentage of market value. Properties do not have to be assessed at 100 percent of market value necessarily, but they do have to be assessed at the same percentage so that all properties are treated in the same fashion. When this is not done, there are three basic inequities that result:

- (i) inequities within classes of property
- (ii) inequities between classes of property
- (iii) inequities across municipalities.

An inequity within a class of property results when all properties within a particular class are not assessed at the same ratio of market value. For the purpose of assessment in Ontario, property is divided into the following ten classes: residential dwellings 1 and 2 units, residential

dwellings 3 to 6 units, residential dwellings 7 units or more, commercial and professional, industrial and manufacturing, other rateable property, institutional, farm, pipelines, and recreational dwellings.

Consider the class of single family homes (1 and 2 units), for example. A situation may arise in a municipality whereby there are two similar homes each with a market value of \$150,000. One may be assessed at \$7,500 (or 5 percent of its market value) and the other at \$4,500 (or 3 percent of its market value). The difference may be a function of the location of each house, the age of the houses, the time the assessment was done or some other factor.

The second type of inequity, between classes of property, suggests that single family homes may not be assessed at the same percentage of market value as are apartments, for example. Finally, the third type of inequity results from different assessment practices in different municipalities in Ontario. These latter discrepancies developed historically from the time that assessment was done locally rather than by the Province.

Empirical studies of the discrepancies in assessment have estimated assessed to market value ratios for different classes of properties in Ontario (see, for example, the Smith Committee, 1967). These studies have shown that older homes tend to under-assessed relative to newer homes, homes located in the downtown of cities tend to be under-assessed relative to suburban homes and so forth. Inequities were also found to exist between classes of property. Specifically, single family homes tend to be under-assessed relative to apartments, and residential property tends to under-assessed overall relative to commercial and industrial property.

In an effort to address the problems resulting from these inequities, the Province has presented several options to municipalities. These options, which all come under The Assessment Act, include: a local Section 63, a regionwide Section 63, a local Section 70 and a regionwide Section 70. Each of these options is discussed in turn.

Under a local Section 63 of The Assessment Act, a municipality can ask the Province to undertake a reassessment of properties within each of the ten classes listed above for that local municipality. This would mean, for example, that all properties in the class of residential 1 and 2 units would be assessed at the same ratio of market value throughout the local municipality. This would be true for each of the classes of property. The result of the application of a local Section 63 is to remove inequities within classes of property but not inequities between classes or across municipalities.

A regionwide Section 63 would reassess properties within classes and make the assessments a uniform percentage of market value throughout the region. In other words, inequities within classes and across municipalities (within the region though not across the province) would be removed. Inequities between classes would still remain.

Under a local Section 70 of The Assessment Act, market value assessment would be introduced locally. In other words, not only would inequities within classes be eliminated but also inequities between classes. Under a local Section 70, however, inequities across municipalities would remain.

With a regionwide Section 70, all inequities would be removed including inequities between municipalities in the region.

Currently in Ontario, the majority of municipalities have applied for a local Section 63. Some municipalities, such as Sudbury, Waterloo and Haldimand-Norfolk are on a regionwide Section 63. Local Section 70 has also been applied in municipalities such as West Carleton, Dalton and Huron. There are many municipalities, including all of Metro Toronto, that are still using assessments based on 1940 values. In the Regional Municipality of Niagara, as noted above, a local Section 63 has been applied in only three municipalities; the remaining municipalities are still assessed on the basis of 1940 values and have not been updated.

Where a region does not have a uniform assessment system and it is necessary to compare assessments across municipalities for grant or apportionment purposes, then an estimate is made of "equalized assessment." Equalized assessment is the assessment in the municipality to which an equalization factor has been applied. The equalization factor is designed to reflect the differences in assessed to market value ratios across municipalities. The equalization factor is determined as follows:

- 1) For each class of property, the assessed to market value ratio is calculated based on a sample of properties;
- 2) Equalized assessment in each class is determined as the total rateable assessment divided by the equalization factor for that class;
- 3) The equalization factor for the whole municipality is equal to the sum of the total rateable property in the municipality divided by the sum of equalized assessment for the municipality.

The equalization factor is determined by a sample of properties in each class and then applied to the actual assessment base. The problem with equalization factors is that they are only as reliable as the estimates of market value on the sample properties. Also, for many grant programs and for apportionment purposes, it is often an average of equalization factors that is used so as to dampen any impact from using the actual equalization factors. Finally, the equalization factors are often calculated somewhat differently for different types of grants and for apportionment. The amount of time and effort that is required to determine these factors and how they are to be applied leads one to question the underlying rationale for these factors.

Table 18 summarizes municipal equalization factors for each municipality in the Regional Municipality of Niagara for 1988. The smaller the factor, the greater the difference between rateable and equalized assessment. At best, assessed value is under 8 percent of market value and, in most municipalities it is less than that. The factors range from 3.50 in Niagara-on-the-Lake to 7.75 in Welland. On average, then, properties in Welland are assessed at twice the ratio of market value than are properties in Niagara-on-the-Lake.

If the Regional Municipality of Niagara were to move to a regionwide Section 63 assessment, there would be an impact study done by the

Table 18

Municipal Equalization Factors, by Municipality, Regional Municipality of
Niagara, 1988

Niagara Falls	6.43
Port Colborne	7.42
St. Catharines	5.73
Thorold	7.45
Welland	7.75
Fort Erie	6.17
Grimsby	4.79
Lincoln	5.03
Niagara-on-the-Lake	3.50
Pelham	4.63
Wainfleet	5.58
West Lincoln	5.13

Source: Ministry of Revenue

provincial government to determine the magnitude of the impact in each municipality and in each property class. This would likely involve new estimates of equalization factors.

Based on the factors currently being used, Table 19 compares the regionwide average factors for three classes of property (residential 1 and 2 units, commercial and professional, and industrial and manufacturing) with the factors for each municipality. This Table says nothing about the magnitude of the impact of a move to a regionwide Section 63 in Niagara nor does it say anything about what would happen to mill rates and property taxes following a reassessment. It merely indicates which municipalities are over-(or under-)assessed relative to the regional averages.

Table 19 also says nothing about individual properties but rather it considers the averages for the three classes. There may be wide variations within classes. For example, on average, residential properties (1 and 2 units) may face increased assessments in one particular municipality but this may mean that some properties within that class will face decreases. For a discussion of the importance of variations within classes, see Slack (1988a).

The first thing that can be noted from Table 19 is that, on average for the region, residential dwellings (1 and 2 units) are under-assessed relative to commercial and professional properties and commercial and professional properties are under-assessed relative to industrial and manufacturing properties. Second, in almost all municipalities in the Region of Niagara, if properties are relatively under-assessed in one class, they tend to be under-assessed in the other two classes. Third, those municipalities where residential dwellings (1 and 2 units) are currently relatively under-assessed are: St. Catharines, Grimsby, Lincoln, Niagara-on-the-Lake, Pelham, and West Lincoln. The result for Niagara-on-the-Lake is somewhat surprising since property assessments have been updated in that municipality.

The implementation of a uniform assessment system throughout the Region of Niagara, and indeed throughout the province, is essential to the financing of local and regional governments. First, the base of the property tax, which is the largest single source of revenue to most municipalities, is assessment. Thus, in order to treat taxpayers fairly, it is essential that they all be taxed on the same base. If two houses of equal value are assessed at different ratios of market value, this is inequitable.

Second, the apportionment of regional costs (which is discussed in more detail below) is based on assessment. If there are inequities in the assessment base, then the sharing of regional costs among the area municipalities is inequitable.

Third, provincial grants such as the resource equalization grant and the general legislative grant for education are redistributive grants based on assessment. Again, if there are inequities in the assessment base, then the redistributive mechanism inherent in these grants will not be effective.

Table 19

**Assessed-to-Market Value Ratios, by Municipality, Regional Municipality of
Niagara, 1988**

	Class 0	Class 3	Class 4
Niagara Falls	.04763	.07449	.13848
Port Colborne	.05684	.10066	.12484
St. Catharines	.04618	.06204	.10573
Welland	.05527	.09890	.15818
Thorold	.05118	.09290	.13132
Fort Erie	.05036	.07787	.12559
Grimsby	.04199	.05676	.10447
Lincoln	.04134	.07453	.09761
Niagara-on-the-Lake	.03027	.04642	.07304
Pelham	.04275	.05943	.11001
Wainfleet	.05045	.08777	.08606
West Lincoln	.04165	.06073	.12754
Region	.04698	.07163	.12400

Note: Class 0 is residential dwelling 1 and 2 units; Class 3 is commercial and professional; and Class 4 is industrial and manufacturing.

Source: Estimated from data provided by the Ministry of Revenue

In short, the entire municipal finance system rests on the assessment base of each municipality. The need for uniformity in assessment practices is essential to the functioning of that system. Equalization factors designed to alleviate the problems resulting from current assessment inequities are not only cumbersome but they are an inadequate substitute for a uniform assessment system.

The implementation of market value assessment in Ontario has been fraught with difficulties since the first provincial statement of commitment to it in 1967. After twenty years of debate and consistent opposition, it may be time to consider some alternatives to market value that, at the very least, provide uniformity in the assessment system. The importance of a uniform assessment system was also stressed in a review of regional government in Ottawa-Carleton (see Slack, 1988c) and some alternatives were considered. Among these alternatives were: a tax based on lot size and building size, a tax based on land value, a tax based on market value but with differential mill rates and a poll tax. The remainder of this section briefly summarizes these alternatives. For a more detailed discussion, see Slack (1988c, pp. 59-64). Clearly, more work needs to be done to determine the feasibility and impact of these and other possible alternatives.

A tax based on lot size and building size would mean a flat rate of tax on the size of the lot and another rate on the size of the building. The main advantage of this approach is administrative simplicity since there would be an objective measure of the base and taxpayers could easily check its accuracy. Since this tax would not be based on land value it would not be subject to the volatility currently being experienced in the housing market. In terms of efficiency, the decision to improve one's property would not be influenced by this type of property tax and the incentive to build on vacant land would be reduced. In terms of equity, a tax based on lot and building size would only be progressive (that is, borne relatively more heavily by high income people than low income people) if it increased with income. There is no empirical evidence on the relationship between incomes and lot and building size but it is likely that such a tax would be less equitable than a tax on market value.

Land value taxation would be applied to the land value only and not the improvements to the land. It would encourage better land use and reduce urban sprawl because of the substantial taxes on vacant land. It is not clear how equitable such a tax would be but it would mean that single family homes in downtown neighbourhoods (on expensive land) would face relatively higher taxes than under the current system.

The assessment of all property at market value with the levying of differential mill rates would mean that everyone would be assessed at full market value but some property classes could be favoured through the levying of lower mill rates. The favoritism of certain types of properties would thus be explicit in the mill rate decisions.

Finally, a poll tax merits some consideration because of plans to implement such a charge in parts of Great Britain in 1989 (see King, 1988). This tax would be a flat amount levied on all adults over the age of 18, with some exemptions. Although such a tax is appealing on efficiency grounds because it does not lead to distortions in the consumption of housing, it does not fare well on equity grounds. Since all adults would pay the same tax

regardless of their income, the tax would impose a greater hardship on low income taxpayers than on high income taxpayers. To alleviate this problem somewhat, the British government has proposed credits based on income for low income taxpayers.

To summarize, this section has stressed the need for a uniform assessment system in the Region of Niagara as well as across the province. If market value is unattainable as the base for assessment, then other options that at least provide uniformity should be considered. A few alternatives have been mentioned here but require further study of their impact on taxpayers and on the municipal finance system generally.

b) The Apportionment of Regional Costs

As noted above, the regional government does not levy its own property taxes directly on taxpayers in the Region. Rather, the regional government determines its tax requirements for the year and then levies this amount on the lower tier municipalities. The lower tiers, in turn, collect these taxes on behalf of the regional tier.

Regional costs are apportioned to the area municipalities on the basis of their assessment (including taxable assessment, payment in lieu assessment and equivalent assessment) relative to the total for the Region. This type of apportionment means that those area municipalities that are relatively rich in terms of assessment pay a larger share of the costs of regional government than do those that are relatively poor in terms of assessment. Since regional government expenditures are not made on the basis of assessment (in other words, regional expenditures are not necessarily greater in richer municipalities), there is an implicit redistribution across municipalities in the Region through the apportionment process.

In a regional municipality where all of the area municipalities are using the same base for assessment, then one regional mill rate would be struck for all municipalities. In other words, no matter where one lived in the Region, the regional mill rate would be the same and it would be equal to the total tax levy of the regional government divided by the total assessment base in the Region. The share of regional costs borne by each municipality would then be equal to that municipality's share of the total assessment in the Region.

However, in the Regional Municipality of Niagara as in many other municipalities in Ontario, the area municipalities are not all using the same base for assessment. As a consequence, it is necessary to place municipalities on a comparable basis before determining the appropriate contribution of each to regional cost.

The procedure used for the apportionment of regional costs in two tier municipalities in Ontario is as follows:

- 1) residential and farm taxable assessment is added to the residential and farm grant in lieu assessment to arrive at an estimate of the total residential and farm assessment;
- 2) this total residential and farm assessment is discounted by the upper tier discount factor (UTDF) which is published in the Ontario Gazette (the

UTDF was equal to .4464 for Niagara in 1988) to arrive at an estimate of local residential and farm assessment;

3) total commercial and industrial assessment is the summation of commercial and industrial taxable assessment plus commercial and industrial payment in lieu assessment plus equivalent assessment -- there is no discounting of commercial and industrial assessment;

4) the three-year average of equalization factors (1985 to 1987) is then calculated;

5) equalized assessment is calculated as the sum of the local discounted residential and farm assessment and commercial and industrial assessment all divided by the three-year average equalization factor and multiplied by 100;

6) the share of regional costs is determined as each municipality's share of the total equalized assessment.

Table 20 shows actual apportionment percentages for the Regional Municipality of Niagara for 1988. The largest share of regional costs is paid by St. Catharines (almost 32 percent) followed by Niagara Falls (over 22 percent). The smallest share is picked up by Wainfleet (at 1 percent).

There are several aspects of the method of apportioning regional costs that merit consideration. First, residential and farm property is discounted at 44.64 percent according to provincial statute (The Unconditional Grants Act). The discount factor is the same for all municipalities in the Region of Niagara but it is different for other regional municipalities in Ontario (for example, the upper tier discount factor for Ottawa-Carleton is approximately .48).

It is not surprising that residential and farm assessment is discounted relative to commercial and industrial assessment since, as noted above, the mill rate is legislated to be 15 percent lower on residential and farm property. However, this mill rate differential would dictate a discount factor of .85 and not .4464. The impact of discounting residential and farm assessment more than is reflected in differential mill rates is to favour municipalities that have a relatively greater proportion of residential and farm assessment: for example, Wainfleet, Pelham, West Lincoln, Lincoln and Grimsby (see Table 13). The communities which are predominantly residential contribute less to regional costs than communities that are predominantly commercial and industrial.

On benefit grounds, it could be argued that this method of apportionment is inappropriate because residential property owners and tenants make greater use of regional government services (especially social and family services, which form the largest component) than do commercial and industrial property owners and tenants. Thus, rather than paying a smaller share of the costs of regional government, residential communities should contribute relatively more to the costs of regional government.

Table 20

Apportionment of Regional Costs, by Municipality, Regional Municipality of
Niagara, 1988

(percent)

Niagara Falls	22.435
Port Colborne	4.446
St. Catharines	31.478
Welland	10.369
Thorold	4.799
Fort Erie	6.214
Grimsby	4.569
Lincoln	3.946
Niagara-on-the-Lake	5.355
Pelham	2.862
Wainfleet	1.285
West Lincoln	2.242
Total	100.000

Source: Regional Municipality of Niagara

A second aspect of the method used to apportion regional costs is the use of a three-year average of equalization factors. The need to apply equalization factors is a direct result of the lack of uniformity in assessment practices within the Region of Niagara. These factors are only estimates of the differentials in assessment practices across the Region and, in many cases, do not accurately reflect those differentials. With a uniform assessment system throughout the Region, the need to calculate equalization factors would be eliminated and one regional mill rate could be levied.

Another issue that needs to be addressed is the basis of apportionment. One could potentially argue that since the services of government are for the people that the costs of regional government should be apportioned on the basis of population or households.

By using property assessment as the basis of apportionment, there is an implicit redistribution from relatively rich municipalities to relatively poor municipalities. If apportionment were done on the basis of population, then redistribution would be from relatively more populated municipalities to relatively less populated municipalities.

Although this argument is somewhat appealing, especially in light of the problems with the assessment system, it is not appropriate in the context of a municipal finance system based on the property tax. As already noted, the lower tiers collect property taxes on behalf of the regional tier. These taxes are collected on the basis of the lower tier's ability to collect those taxes, that is, a richer municipality contributes more than a poorer municipality. The measure of relative ability to collect taxes is the base of the tax-- the assessment base in the case of the property tax. If the tax being collected were a poll tax, then the measure of ability to pay would be population. The use of population is not appropriate for apportionment, however, in the context of municipal finance in the Niagara Region nor in the rest of the province.

To summarize, the apportionment of regional costs on the basis of the assessment base is, in theory, an appropriate mechanism for distributing those costs. However, given the lack of uniformity in the assessment system and the discounting of residential assessment, it is not clear how equitable the resulting apportionment is in practice.

c) The Differential Treatment of Residential and Non-Residential Property

Underlying the discussions of assessment and apportionment of regional costs is the implicit favourable treatment of residential property in the municipal finance system in Niagara and across the province. This section highlights the differential treatment of residential property and examines the justification.

As noted above, the assessment process favours residential property over non-residential property by maintaining a system whereby residential property is assessed at a lower ratio of market value than is non-residential property. Single family homes, in particular, are assessed at much lower ratios of market value even than other types of residential dwellings and residential properties on farms are favoured to an even greater extent. Indeed, the move to market value assessment, which would

remove these discrepancies, has faced strong opposition from homeowners and farmers.

Second, there is explicit favoritism of residential property through the use of a split mill rate throughout Ontario. It is legislated by provincial statute that the mill rate on commercial and industrial property be 15 percent higher than the mill rate on residential and farm property. This not only applies to municipal taxes but also to school taxes.

Third, non-residential property is levied an additional business tax on the occupant of that property. The rates of business tax vary widely (and with little justification) with the nature of the business.

One of the ways to compensate for these differentials, as noted above, is through the method of apportioning regional costs among the area municipalities. As noted above, however, the formula over-compensates for the differential mill rates, the result being that the costs of regional government are borne relatively more heavily by those municipalities with relatively more non-residential property.

The favourable treatment of residential property was originally justified on the grounds that commercial and industrial property could write off property taxes against income for income tax purposes and thus place some of the burden on other levels of government. This argument could be extended to rented residential property as well. Single family homeowners, however, have to bear the burden of property taxes themselves. Thus, the lower mill rate was intended to compensate for this difference in income tax treatment. Although this argument provides a justification for the explicit favoritism through split mill rates, it is difficult to extend that justification to the implicit discrimination of residential property in the assessment or apportionment processes.

On benefit grounds, moreover, one would argue for lower tax rates on non-residential property because these properties use less services. It has been suggested, for example, that commercial and industrial property uses approximately 60 percent of the services used by residential property (see Clayton, 1968). However, on ability to pay grounds and on political grounds, it is more likely that the differential treatment will remain. One of the reasons is that taxes on commercial and industrial property result in "tax exporting" whereby property taxes on non-residential property get passed on to the consumers of goods and services produced on those properties. To the extent that those consumers live outside of the taxing jurisdiction, the tax is exported.

The favourable treatment of residential property has existed in Ontario for decades (see Bird and Slack, 1978). It is explicit in the mill rate and implicit in other characteristics of the municipal finance system. Since it is likely to remain a reality for years to come, it would be desirable to recognize it explicitly through differential mill rates rather than implicitly through assessment and apportionment.

d) Provincial-Municipal Grants

The revenue analysis in this study has indicated that provincial grants have declined somewhat as a proportion of total revenues for municipalities

in the Niagara Region over the period 1977 to 1986. In addition, the majority of grants to municipalities in Niagara (and in other Ontario municipalities) are conditional in the sense that they have to be spent on specifically-defined functions. Any move to de-conditionalize grants is not evident in the Niagara Region or elsewhere in Ontario.

The purpose of this section is to describe and analyze provincial transfers to municipalities. The economics literature provides three rationales for transfers: spillovers, fiscal equity and fiscal gap (see Slack, 1981). A detailed discussion of the economics of intergovernmental transfers can be found in Slack (1988c); a summary appears below.

The spillover argument suggests that, because some services spill over into other jurisdictions, a provincial grant is required to provide an incentive to the producing jurisdiction to increase the level of service it provides. The appropriate grant is conditional, matching, open-ended. The grant would be conditional on being spent on the activity generating the spillover; it would be matching in the sense that the Province would pay a percentage of the local expenditure; and it would open-ended on the assumption that the spillover increases with increased expenditures. The appropriate matching rate would reflect the degree of spillover. For example, if 25 percent of the benefits of a service spill over into another jurisdiction, then the matching rate of grant would be 25 percent.

The second economic rationale for grants is on the grounds of fiscal equity. The underlying objective of the grant would be to allow each municipality to be able to provide a comparable level of service by levying a comparable tax rate (as other jurisdictions). Municipalities may not be able to achieve this objective in the absence of a provincial grant because of differences in fiscal capacities, needs and costs. The appropriate grant to achieve fiscal equity is an unconditional, lump sum transfer. It would be unconditional in the sense that the municipality could spend the funds on any function and it would be lump sum in the sense that municipalities would not have to match provincial funds.

The third rationale for transfers -- fiscal gap -- states that municipalities face a mismatch of revenues and expenditures. Since property tax revenues do not grow as quickly as expenditure demands, provincial grants are required to fill the gap. Provincial revenues are elastic in that they grow automatically with the growth in the economy; property taxes are considered to be an inelastic source of revenue. Consequently, the elastic revenue sources of the Province are required to fill the gap created by the inelastic local revenue sources of the municipalities. These grants should be unconditional and lump sum.

Other justifications for transfers are that the Province wants visibility in local government services, control over local government services and it wants to ensure that minimum standards are being met. With these underlying objectives, one would expect the grants to be conditional on being spent on the particular function of interest to the Province.

The majority of provincial grants in Ontario are conditional, matching and closed-ended. In light of the above rationales for transfers, it would seem that the underlying objective is provincial control and visibility rather than the correction of spillovers, for example. There are also some

unconditional grants in Ontario: the per household grant (general, police and density), the resource equalization grant and the revenue guarantee. A brief description of each follows.

The per household grant is a flat amount per household to upper and lower tier municipalities. These grants are redistributive because the Province collects tax revenues (income, sales and so forth) from individuals and corporations across the province and then hands back the funds on a per household basis through this grant program. More funds are collected per household in richer municipalities than poorer municipalities but all municipalities receive the same flat rate per household. Thus, there is an implicit redistribution from richer to poorer municipalities.

The general support grant is given to upper and lower tier municipalities and provides assistance equal to a percentage of the previous year's net general dollar levy (equal to the previous year's tax collections, payments in lieu of taxes and unconditional grants). Thus, the largest grants go to the municipalities with the largest net general dollar levy. The special support grant is available to municipalities in Northern Ontario on the grounds that costs (and needs) are greater in those municipalities.

The resource equalization grant, which goes to upper and lower tier municipalities, is designed to allow all municipalities to provide a comparable level of services at comparable tax rates by improving the fiscal capacity of poorer municipalities. The grant is equal to a percentage of the difference between the equalized assessment per household of the municipality and the average in the province all multiplied by the net general dollar levy. There are constraints on changes in magnitude from the previous year's grant.

A recent review of the resource equalization grant in Ontario suggests that this grant is successful in giving larger per household grants to poorer municipalities but that the floors and ceilings constrain the amount of equalization (see Auld and Eden, 1987, p. 523). Another study, by Eden and Howe (1988), indicates that per household expenditures are a poor proxy for costs of services and that assessment is an inadequate measure of fiscal capacity. The authors point out that the success of redistribution through the resource equalization grant depends critically on the assessment base. Inequities in assessment seriously reduce the ability of this grant to redistribute fairly.

Finally, the revenue guarantee is a grant which ensures that unconditional grants do not fall significantly from year to year.

In terms of the appropriate level of government to be the recipient of provincial grants, economic theory would suggest that conditional grants be given to the level of government generating a spillover in the provision of a service. It might be the upper or lower tier. However, since one of the purposes of regional government was to address spillovers, it is anticipated that regional government services might result in fewer spillovers than local government services. Conditional grants might then be more appropriate at the local level.

Unconditional grants, in particular the resource equalization grant, are designed to redistribute resources. Since one of the purposes of regional

government is to redistribute resources, one could argue that redistribution within municipalities in the region is already being done. Thus, a grant to the upper tier would serve to redistribute resources across regions within the province; this grant would then benefit lower tiers through regional pooling. Since local municipalities have more in common in terms of needs and costs with other local municipalities within the region, it seems more appropriate to let the regional government undertake redistribution within the region and the provincial government to undertake redistribution across the province.

e) User Charges

A user charge is an amount of money charged per unit of good or service provided by government and collected from the user. Other terms for user charges include user fees and public prices. Although the basic pricing principles used for private goods (i.e marginal cost pricing) underly the prices charged for public services, it is sometimes difficult to apply these principles to public sector output.

The primary rationale for pricing public services is economic efficiency (for a more detailed analysis, see Bird and Slack, 1983, pp. 80-82). By charging directly for services, the consumers are aware of the costs and determine their demand accordingly. In this way, the price acts as a signal of what people want and gives government planners an idea of the appropriate amount of resources to allocate to that service. In addition, pricing gives consumers an indication of the resources being committed to this service and serves to curb demand.

User charges can be equitable when measured against the benefits received: consumers get what they pay for. In terms of ability to pay, however, there has been some question concerning the equity of user charges. The response to these concerns is that user charges are required for efficiency and where some users are unable to afford the service, a cash subsidy to the user is appropriate. Some examples include senior citizens passes on the transit system and subsidies for day care.

The alternative to a user charge, that is subsidization of the service, means that subsidies are being provided according to the use of the service and not the ability to pay for it. For example, if water is subsidized rather than being charged for directly, then the subsidy is largest for the greatest users of water. One might expect that the greatest users of water are higher income households rather than lower income households. Thus, even on ability to pay grounds, user charges may be more appropriate way of financing water services.

Most municipalities in Ontario make some use of user charges for water, sewers, transportation, recreation and cultural services and social services. However, user charges still do not account for more than 20 percent of total revenues in any municipality. It would seem that increased pressure on property taxes combined with the numerous virtues of user charges would result in greater reliance of municipalities on user charges. This has not happened yet.

For the lower tiers in the Regional Municipality of Niagara in 1986, user charges (not including sewer and water billings that appear on the property

tax bill) accounted for almost 11 percent of total revenues. Unfortunately, as noted earlier in the data analysis, a comparable estimate could not be compiled for the regional tier. It could be determined, however, that the greatest fee at the regional level is for social and family services. At the local level, user fees are charged mainly for transportation and recreation and cultural services.

One example of user charges in Ontario and in the Regional Municipality of Niagara is development charges or lot levies. These are charges levied on the developer to recover the growth-related costs of development to the municipality. In all municipalities in Ontario, with the exception of Metro Toronto (where there is little new development) and Niagara, development charges are levied by both the regional and local levels of government. In Niagara, only the local tiers apply development charges; the regional tier does not. The feasibility of levying development charges at the regional level in Niagara is currently being considered.

All of the lower tier municipalities in Niagara levy a development charge with the exception of Wainfleet. The range of charges on a single family residential development is from \$178.50 to \$2,258; the average is \$1,227. Of the eleven municipalities that do levy a charge, only one (Niagara Falls) levies on commercial and industrial development as well as residential development. Only three municipalities levy a charge to cover "soft costs" (health care, homes for the aged, day care and so forth) as well as "hard costs" (water, sewers, roads and so forth).

There are two main issues concerning the application of development charges: average cost or marginal cost pricing and hard or soft costs. With respect to the first issue, economists would argue that it is most appropriate to use marginal cost pricing since such pricing will lead to the most efficient allocation of resources. Marginal cost pricing would more closely approximate a true user charge. However, the majority of municipalities in Ontario use some form of average cost pricing whereby the total cost of services is divided by the number of housing units to arrive at a charge per house. Sometimes, different categories of housing (i.e. single family, apartments) are levied different charges.

The issue of hard or soft services comes down to the identification of what costs are incurred by the municipality as a result of the new development. The costs of sewers and roads (the hard costs), for example, would not be incurred in the absence of a new development. It is less clear whether there would be additional soft costs (such as for social services) arising from a new development. In this context, it is interesting to note that the Regional Municipality of Niagara feels that future growth in the Region will not increase the demand for "soft costs" significantly (Draft Report, 1988, p. 9).

It is anticipated that development charges are passed on, depending on market circumstances, to the new buyer in the price of the house. If this is the case, then the new home buyer is paying for the costs of municipal services. The alternative to a development charge is to pay for these services out of general property tax revenues which means that all taxpayers are paying for the costs of the new development. If the municipality borrows the funds to pay for the services, then future generations of taxpayers will be paying for the costs of the development.

The issue of debt financing is discussed further below.

f) Alternative Revenues

Although there have been discussions for years concerning the possibility of implementing income taxes or sales taxes at the local level in Ontario, it is unlikely to occur. The reasons are, in part, because of the inter-municipal competition that would result to attract residents and, in part, because it would allow municipalities a considerable amount of autonomy. Inter-municipal competition is not necessarily bad and from an economist's perspective has some merit. The real problem is the unwillingness of the Province to allow that competition or to allow the local autonomy that would result. In any event, a local income tax would be costly to administer.

An alternative to a locally administered income tax would be to allow municipalities a share of the provincial income tax. In the same way that the provinces (with the exception of Quebec) "piggyback" on to the federal personal income tax, the municipalities could "piggyback" on to the Ontario personal (and possibly corporate) income tax. This form of "revenue sharing" with municipalities is common in Saskatchewan and Manitoba, as well as other provinces in Canada.

There are several ways in which to share provincial personal income taxes with municipalities and many of the options are considered in Slack (1983). Since different surcharge rates for different municipalities would result in similar consequences as for a local income tax, it would probably be more acceptable to levy a uniform surcharge rate for all municipalities in the province. Once these funds have been collected, the Province would require some mechanism to redistribute them back to the municipalities. It could redistribute the funds to a municipality according to what it collected from it (as is done in federal-provincial tax collections) or it could redistribute on a per capita basis (as is done with municipalities in Manitoba). In Manitoba, this method of distributing funds implicitly redistributes from richer municipalities to poorer municipalities. Other distribution methods could also be used.

The outcome of this form of revenue sharing is not an increase in local autonomy and probably not even an increase in revenues for municipalities. Rather, it would mean that municipalities would receive an unconditional grant (as they do now) that had some certainty attached to it: the grant would increase with increases in the growth of income tax collections which would, in turn, increase with the growth in the economy. If this source of revenue were to replace some part of the property tax (to be discussed further below), then taxpayers would benefit from the shift to a more progressive tax (one that bears relatively more heavily on high income taxpayers). However, the final impact would depend on how the funds were transferred back to municipalities and which taxpayers benefitted from the resulting expenditures.

Although the notion of revenue sharing is appealing, it cannot be relied on to replace the property tax. A study of educational finance (see Slack, 1985) estimated that a 20 percent rate of surcharge would be required just to replace the property tax portion of education in Ontario in the year 1981-82. This would mean that, just to replace about one half of the

property revenues, the provincial surcharge on the federal tax in Ontario would have to increase from approximately 50 percent to approximately 70 percent. The likelihood of this occurring is extremely low. Thus, although an attractive source of revenue in some ways for local governments, piggybacking on to the provincial personal income tax could only reduce the pressure on the property tax very little.

There do not appear to be any significant new revenue sources for local governments in Ontario. Revenue sharing with the provincial government is a possibility but it will not provide sufficient revenues to replace the property tax. Somewhat more reliance on user charges would provide increased revenues to local governments at the same time as it would make the financing of local services more efficient. Finally, rather than looking for alternatives to the property tax, it would seem more fruitful for municipalities to concentrate on improving the property tax because it is likely to remain the most significant source of revenue at the local level for many years to come.

III. Capital Expenditure and Revenue Analysis

The need for capital expenditures is dictated by growth, the requirement that existing infrastructure be maintained and by provincial standards and quality control. The main issue in the capital expenditure and revenue analysis revolves around the financing of urban infrastructure (sewers, water, roads, bridges, sidewalks and so forth) to meet these various requirements. This issue is discussed in a) below.

a) Financing Urban Infrastructure

In the Regional Municipality of Niagara, capital spending for 1988 is projected to be almost \$41 million of which almost \$23 million is for sewage works, over \$10 million is for roads and almost \$5 million is for waterworks. The projected expenditures over the period 1988 to 1992 total almost \$180 million of which sewage works and roads will be the major components (Regional Municipality of Niagara, 1988 Capital Budget, p.1).

The main sources of financing capital expenditures are: grants and subsidies, current revenue, reserves, and debentures. In an effort to limit dependence on debt financing and to minimize the impact on the tax levy, the regional municipality has set some guidelines. For general purposes, the guidelines permit capital financing costs to increase at the same rate as the tax levy while allowing additional revenue from assessment growth to be used for capital purposes. For sewage and water, guidelines have been established which allow 7 percent rate increases for sewer and 6 percent rate increases for water over the period 1988 to 1992.

Efforts have been made to move to "pay-as-you-go" financing for water and sewer by 1991. To this end, a capital levy was introduced in 1981 and calculated into the sewer and water rates. However, it appears that there will still be some reliance on debt in 1991 because of increased capital costs for these services. The issue of "pay-as-you-go" versus debt financing is discussed below.

One of the issues in urban infrastructure is the appropriate level of government to finance capital expenditures. Indeed, it has been argued in

Niagara and elsewhere, that one of the major reasons for growth in capital expenditures on sewers, for example, has been increased standards set by the Ministry of Environment in 1985.

Although the major responsibility for urban infrastructure rests with local governments, there may be a role for other levels of government to assist in financing the necessary infrastructure. The main rationales for federal and provincial involvement in the funding of infrastructure include: spillovers, fiscal equity, and stabilization. Each of these is outlined briefly (for a more complete discussion, see Amborski and Slack, 1987).

The strongest rationale for federal and provincial funding of urban infrastructure is the spillover argument. Where the benefits of certain types of infrastructure spill over into other jurisdictions (for example, sewage treatment, some roads and other services), there is a need for provincial (or federal) government involvement to encourage the municipality to provide an appropriate level of service. A conditional, matching grant would reduce the spillover.

On fiscal equity grounds, it can be argued that each municipality should be able to provide at least some minimum level of service even if it does not have adequate resources. This objective could be achieved with the use of conditional, lump sum grants or by having the federal or provincial government assist with the debt financing of municipalities.

The stabilization argument suggests that the federal government should invest in urban infrastructure because it will create jobs. Since construction leads to fewer leakages outside the country a dollar invested in infrastructure will stimulate the economy more than a dollar invested in other activities (see Sonnen, 1987). This argument is not particularly strong since increased expenditures on social housing, day care centres and other facilities will also generate jobs. Thus, it is important to establish that investment in infrastructure is more important than investment in other activities.

To summarize, the primary responsibility for urban infrastructure rests with local government but there is a role for federal and provincial involvement in the funding of that infrastructure where there are spillovers or where there are inadequate resources to maintain minimum standards. However, with provincial and federal funding comes a loss of local autonomy in terms of priorities and decision-making. For example, federal funding in the past tended to favour new facilities over the maintenance of existing facilities (Amborski and Slack, 1987, pp.43-46). This is just the kind of decision -- construction versus maintenance -- that is best made at the local level.

As noted above, the Regional Municipality of Niagara has attempted to move to a "pay-as-you-go" method of financing sewer and water capital expenditures. Indeed, most municipalities in Ontario are reluctant to depend on debt financing for capital expenditures. This position has resulted, at least in part, from the high interest rates of the 1970s when many municipalities were faced with high debt servicing costs. The move to "pay-as-you-go" financing, however, means that capital items are forced to compete for property tax dollars with other expenditures such as social services and education.

Economists would argue that there is some merit in using debt finance for capital expenditures. Where the benefits of a particular facility (such as a road or a sewage treatment plant) are enjoyed over an extended period (such as twenty five years), it is appropriate that the costs be borne over the same time period. Rather than having taxpayers today pay for all the costs of facilities that will be enjoyed by others in the future, the municipality could borrow the funds and pay them back over the life of the facility. In this way, taxpayers each year would pay for the services they enjoy from the facility in that year. Debt finance could thus be justified for projects with a long life expectancy such as water and sewage treatment plants, major road construction and major structural repair to bridges.

Conclusion

In the Regional Municipality of Niagara over the period 1977 to 1986, current expenditures (and revenues) of both the upper and lower tiers combined grew at an annual average rate of 8.1 percent and in real terms per household, the annual average rate was only 0.3 percent. Expenditures have grown relatively more quickly at the regional than at the local level and, indeed, some lower tier municipalities have shown a decline in real expenditures per household over the period. In comparison with other two tier and single tier municipalities in Ontario, revenue and expenditure growth has been relatively modest in the Niagara Region.

Several issues have emerged from the analysis in this study. Four broad issues are summarized:

1. When the criteria for designing government structure were analyzed, it was concluded that the optimal form of government may be a two tier structure: services that exhibit economies of scale and spillovers are provided by the upper tier and services that benefit from demand and access considerations are provided by the lower tier. With the exception of garbage disposal, the functions appear to be appropriately divided between tiers in the Region of Niagara. Garbage disposal, which is characterized by economies of scale and spillovers, would be more appropriately provided at the regional level. In all of the other two tier municipalities studied in Ontario, garbage disposal was a regional function.
2. The entire municipal finance system in Ontario and in the Regional Municipality of Niagara rests on the assessment base. Property taxes, provincial-municipal grants, provincial grants to education and the apportionment of regional costs all depend on the assessment in each municipality. To the extent that this base lacks uniformity, all of these aspects of the municipal finance system are flawed. The need for a uniform assessment system is crucial to the future of that system.
3. The favourable treatment of residential property over non-residential property was documented for the Niagara Region and the rest of the province. Four aspects were noted: differential mill rates, assessment biases, the levy of a business tax on non-residential property, and the discounting of residential property in the apportioning of regional costs. It is time to recognize this favoritism, analyze the impact and determine if it is appropriate. If it is to continue, it should be done explicitly through mill rates and not implicitly through assessment and apportionment calculations.
4. Another issue that has arisen throughout this study is the role of the Province in local decision-making. The Province sets quality standards for municipalities to maintain, it requires that municipalities not go into deficit on current account, it determines the assessment base, it provides grants with rules and regulations that have to be followed and it requires provincial approval of capital expenditures. The result seems to be a municipal finance system with little municipal flexibility to make fiscal decisions.

Finally, it is important to look at the future. In terms of expenditures, it appears that the Regional Municipality of Niagara needs to look at major capital (and operating expenditures) on such facilities as waste disposal and sewers. In terms of revenues, it appears that there are few alternatives to the property tax, with the exception of making greater use of user charges. The most realistic scenario is one in which reliance on the property tax will continue. Efforts to improve the administration of that tax are essential in the short and long term.

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